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ADDRESS.

PRESIDENT'S ADDRESS: REVIEW OF THE PROGRESS OF MEDICINE DURING THE LAST HALF CENTURY.

BY JAMES TYSON, M.D.,
Philadelphia.

(Delivered at the General Meeting, Medical Society of the State of Pennsylvania, Scranton Session, September 24, 1912.)

Realizing that the usual subject of a medical discourse, such as a discussion of some disease or morbid state, is not suited to an occasion like the present, I have decided, after a careful survey of the field and some conference with those in a position to advise, to venture a review of the most important events in the progress of medicine during the half century that has elapsed since I entered the profession.

On March 13, 1863, when I received my diploma the Civil War between the North and South was raging, ushered in by the attack on Fort Sumter, April 12, 1861, culminating in the battle of Gettysburg, July 1 to 3, 1863, and terminating in the surrender of General Lee, April 9, 1865, almost exactly four years.

MEDICAL EDUCATION.

At that time medical education in the United States was at its lowest ebb. The earliest information tabulated in the Bureau of Education at Washington respecting medical schools is for 1869-70 when there were 72 medical colleges of which 59 were of the regular system, 5 of the eclectic system, 7 of the homeopathic and 1 of the botanic system, making a total of 72. None required more than two annual courses of lectures, the same lectures being repeated each year. Three years of study were, however, considered necessary in preparation for the degree, time not occupied at lectures being supposedly spent in "reading" under a preceptor in active practice. Nevertheless many were graduated after only eighteen months of study. The Civil War further contributed to demoralization since the demand for surgeons was so great that many were accepted who had not yet received their diplomas.

For fully thirty-four years longer medical schools continued to multiply until, in 1904, 148 schools were registered by the University of the State of New York. Many schools were organized purely in the interest of those who became professors. More recently the number of medical schools has been diminishing. Thus the bureau of education at Washington reports, at the close of 1910, 145 medical schools of which 112 were regular, 14 homeopathic and 19 eclectic. At this writing the number has been reduced to 120.[1]

MEDICAL EDUCATION OF WOMEN.

A subject of absorbing interest, at the time of my graduation in 1863, was the medical education of women. This was especially the case in Philadelphia where the first woman's medical college was founded in 1850. The discussion culminated soon thereafter in opening the clinics of the Pennsylvania Hospital to mixed classes of men and women students in the winter of 1864-65. The consequence was a disorderly and discreditable exhibition on the part of the men students and a resignation of one of the visiting surgeons opposed to the women; but so highly was this distinguished surgeon appreciated by the managers of the hospital that he was reëlected with the understanding that the women students should not attend his clinics. With the lapse of time the opposition diminished and for some time women and men have attended the clinics of the hospital in nearly equal numbers. The admission of women to the state and county societies was contested for some time longer but finally prevailed, the fiercest and most prolonged opposition being that of the Philadelphia County Medical Society and the Medical Society of the State of Pennsylvania. For a time too, there was an indisposition on the part of men to consult with women physicians, which gradually grew less and has long since disappeared.

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[1] See Dr. N. P. Colwell's address at the Eighth Annual Conference of Medical Education, Chicago, Feb. 27, 1912.

SPECIALISM.

At the date of my graduation specialism had just begun to make its appearance in the United States, but those who adopted it were looked upon with disfavor and suspicion. Facilitated by the laryngoscope the study of the larynx was among the first to be dignified with the importance demanding such recognition, even before the eye, which, however, soon outstripped the larynx, because of the greater importance of the subject and evident necessity of special preparation in optics for its better understanding. Indeed in the matter of the eye, the earlier specialists had a better scientific training than many who take up the subject at the present day and are assisted by optical appliances which enable them to work by rule rather than by knowledge. As the laryngoscope in the case of the larynx, so the ophthalmoscope proved a powerful impetus to the study of the eye. The ear claimed attention simultaneously with the eye and at first from the same specialist. Latterly it has come to be associated with the throat and nose.

After the eye, nose and throat, gynecology as a specialty sprang rapidly to the front. The treatment consisted at first especially in topical applications for inflammation of the uterus and in the use of pessaries of various shapes for uterine displacement. Operative procedures were later added among which ovariotomy was early conspicuous.

ANESTHETICS.

In 1863 ether and chloroform had been in general use for a dozen or more years, though there was some difference of opinion, as at the present day, as to the relative safety of the two. In America ether was preferred, being regarded as safer, while in England chloroform was the favorite. But in the United States as well there were a few surgeons, among whom Prof. Samuel D. Gross was conspicuous. who preferred chloroform on account of its prompt and undisturbing effect, regarding it as safe as ether when administered properly. Amputations were, however, occasionally done then, as now, without a general anesthetic, because of the desperate weakness of the patient, and I can recall such operations during the Civil War by my surgeon-in-chief, John Neill, in charge of the military hospital at Broad and Cherry Streets, Philadelphia. Laudanum and whisky were substituted and the patients showed surprising indifference, and did well.

Since then a variety of anesthetics, general and local, have come into use, but they have been short lived except nitrous oxid for general anesthesia and cocain or some of its modifications for local anesthesia. The former, being perfectly safe, is much used for short operations and previous to ether, to hasten the action of the latter. Only its costliness interferes with its more general use in longer operations. Cocain and eucain when skillfully availed of are very efficient local anesthetics. Eucain is at once more efficient and harmless. Spinal anesthesia has acquired popularity among a few surgeons.

THE CLINICAL THERMOMETER AND HYPODERMIC SYRINGE.

I do not remember having seen a clinical thermometer or a hypodermic syringe while I was an intern in the Pennsylvania Hospital in 1863-64, nor in my military hospital service 1862-65.

In the matter of *clinical thermometers*, George Armatage in a little book entitled "The Thermometer as an Aid to Diagnosis in Veterinary Medicine"[2] says the earliest use of it in England among veterinarians was by Prof. Gamgee in 1865, although he says also, quoting Flemming, that the thermometer was used as a test for morbid temperature by Paulet in the middle of the eighteenth century. I find in the catalogue of the Surgeon General's Library, a title, "A Thermometer for the Human Body," by Spurgin, dated London, 1852. Abraham Flexner in his report to the Carnegie Foundation on Medical Education in Europe says that while the clinical thermometer was known to Boerhaave (1668-1738) it first came into general use through the clinician Traube in 1850. The date of its popular use has perhaps been set as nearly as possible by Cornelius B. Fox in a paper on the "Clinical Thermometer," published in 1869, *in the Medical Times and Gazette*, where he says, "Every practical physician has doubtless ere this made the thermometer as much a companion as the stethoscope." At that time no thermometer was thought reliable unless made by Hicks or Hawksley and tested at Kew Gardens. Armatage says that we are indebted for the perfection to which it has been raised, to L. Casella, instrument maker to the admirality at 147, Holborn, London. Casella published catalogues and lists of instruments in 1865-71. To him Armatage ascribes the suggestion of the self-registering feature.

In the matter of the *hypodermic syringe* the history of its introduction is a complicated evolution of which it is exceedingly difficult to determine precisely the different stages. About 1836 Lafargue published the results of observations on the insertion of morphin under the skin along the "trajectory" of nerves affected with neuralgia, he having invented a needle-trocar with which he deposited morphin in the form of paste. This method was pursued by others in France, Germany and America, our own country being represented by Drs. Taylor and Washington of New York, who, in 1839 or thereabouts, modified the process by substituting for the paste, morphin in solution, injected under the skin with an Anel syringe which Bartholow[3] calls the progenitor of the modern instrument. It was a small syringe with an elongated tapering nozzle fine enough to enter the lacrymal duct, readily converted into a hypodermic syringe by "cutting a point on the small extremity of the cannula." The first injections with the Anel syringe were done through an opening in the skin previously made for the purpose. Taylor and Washington lost much of the credit due them by their failure to publish their results until others had anticipated them.

Priority in the employment of the hypodermic syringe was claimed by several. Thus Sieveking claimed it for Kurzak of Vienna, but seems unsupported by other authority. Priority is commonly acceded to Dr. Alexander Wood of Edinburgh, who began in 1843 the use of a crude syringe, similar to that of Anel, with which he injected a solution of morphin also through an opening made in the skin. G. Judas in a Strasburg thesis for the doctorate, entitled "Introduction of Medicine Hypodermically," 1864, thus alludes to Wood's syringe: "A. Wood injected medicine under the skin with a little syringe made by Ferguson which was, however, soon replaced by the syringe of Pravaz." Thus is explained, another name still used in France and Germany. Pravaz was a physician of Lyons in France who recommended this method about 1860.

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[2] Third edition, 1894.

[3] Bartholow: Hypodermic Medication, Fifth edition, 1891, p. 18.

Wood[4] did not publish his results until 1855, twelve years later. In the meantime, having become familiar with the process, others applied it, claiming more or less priority. Among these may be named Mr. Rynd of Dublin who says, "The subcutaneous injection of medicinal substances to combat neuralgia was first used by myself in the Meath hospital in 1844."

Until a short time prior to 1859 the curative results were believed to be purely local and it was considered essential that the injection should be made at the painful spot. This was also the view of Dr. Wood who, however, appreciated also the systemic effect. So, too, morphin was the only drug thus far used. To Mr. Charles Hunter of London is due the important demonstration that it is unnecessary to make the injection at the seat of the pain. His results, first determined by experiments on animals and confirmed by application to human beings, are thus summed up: "Hypodermic injections act by absorption; they act quicker than by the endermic method or stomachic doses; they act more effectually; and a small dose injected is equivalent to a much larger one by the stomach."

Hunter's work was extensive, including experiment and clinical observation. His first paper was published in 1859 and was entitled "Experiments Relative to the Hypodermic Treatment of Disease." Publications were made in all the important British medical journals and in 1865 he issued a pamphlet on "The Speedy Relief of Pain and Other Nervous Affections by Means of the Hypodermic Method, London, 1865." He did much through personal effort in enlisting the coöperation of physicians and surgeons of London. Thus a knowledge of the new method spread through England, France, Germany and Austria. In 1867, Dr. Albert Eulenberg, in the second edition of his book on the subject, published a list of 220 articles and essays, written 1855 to 1867 in various languages but chiefly in German.

The hypodermic method of Wood, defined and extended by Hunter, was introduced in the United States, according to Bartholow, by Fordyce Barker who, while in Edinburgh in 1856, was presented by Professor Simpson with a hypodermic syringe and used it on his return to New York in May of that year. The first published report of the method in this country was by Ruppaner in the *Boston Medical and Surgical Journal* in 1860.

It is pretty evident, therefore, that the more general use of these instruments, the clinical thermometer and the hypodermic syringe, followed the close of the Civil War in 1865.

FEVERS.

At the time of my graduation the separation of fevers had been completed. The eruptive fevers were as a rule easily diagnosed; typhoid and typhus were no longer confounded, nor were typhus and relapsing fevers, while the last two had become quite rare in this country though epidemics of both occurred after I graduated. The malarial fevers in their typical forms were easily recognized but certain remittent forms now known as estivo-autumnal were still being confused with typhoid, the laboratory tests now so valuable being then unknown. An interesting mistake grew out of the Civil War in which there occurred among the soldiers in the field many cases of typhoid fever and of malarial fever which under the inspiration of J.J. Woodward, an eminent surgeon of the army in charge of the Medical History of the war, grew to be regarded as a mongrel affection the result of the combined action of the causes of the two diseases. Although the laboratory methods of diagnosis now in vogue were then unknown, even at that day there were many who would not accept the view. Later studies by modern methods of clinical material furnished by the Spanish American War refuted entirely its claims but discovered also that the separate causes of the two diseases might be in the blood at the same time and that after typhoid fever had terminated, the malarial protozoön could at times be found and the cure could be completed by quinin. The malarial fever had been for a time in abeyance.

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[4] *Edinburgh Medical and Surgical Journal*, 1855. Bartholow, *op. citat.*, p. 20.

ABDOMINAL SURGERY.

Abdominal surgery, except oöphorectomy, was scarcely known. This operation introduced in 1809 by Ephraim McDowell of Kentucky was being done by John and Washington Atleè in Pennsylvania, by Kimball and Walter Burnham[5] in New England, by Sir Spencer Wells, Knowsly Thornton and Charles Clay in England and by Thomas Keith in Scotland. There was, however, still much prejudice against it and I remember well the emphatic remark of a professor of surgery in the University of Pennsylvania who as late as 1869 said to me, "I would not let Atlee touch a relative of mine with a ten-foot pole." Nevertheless ovariotomy became rapidly popular; in fact, reached such popularity that it was done at times needlessly and for reasons not now deemed sufficient. While it is true also that ever since Julius Cesar was extracted from his mother's womb by Cesarean section, this operation has been done from time to time on women with narrow pelves, the instances prior to 1863 were few. With the introduction of antiseptic surgery it became a comparatively frequent operation. Antisepsis gave a great impetus to abdominal surgery which has grown until at the present day it may be truly said that there is scarcely an organ of the abdomen which has not been successfully removed.

SPONTANEOUS GENERATION AND CELLULAR PATHOLOGY.

The theory of spontaneous generation was the subject of lively dispute for some time after I graduated although it had received a mortal blow at the hands of Pasteur through observations and experiments in 1860-64 culminating in a demonstration at the Sorbonne, April 7, 1865, before an audience which included, besides professors and students, such celebrities as Duruy, the minister of public instruction, Alex. Dumas, Sr., George Sand and the Princess Mathilde. Thus was established the dictum *Omne vivum a vivo.* Simultaneously in Germany, Virchow, on whose banner was emblazoned the device *Omnis cellula e cellula,* carried the same conviction into physiology and pathology, his results being further confirmed by the later studies of his countrymen, Robert Koch and Ferdinand Kohn in 1876. Pouchet and his followers in France and Charlton Bastian and Prof. Owen in England continued the fight for a time but the opposition evidently ceased and spontaneous generation has practically no advocates to-day. Among those who disputed facts brought forward by Pasteur were the Baron Liebig (1870-72) and Prof. G. Colin, an eminent veterinarian but a bitter and unfair opponent of Pasteur.

This important biological doctrine so closely related to the origin of disease claimed the attention of the earliest philosophers and students of nature. The use of the microscope in its crude form tended at first to favor the theory. Such was the conclusion in 1671 of Kircher, a Jesuit priest, and four years later of Lowenhoek, a Dutch linen merchant, as the result of their minute study, such as it was, of decomposing animal matter of various kinds. On the other hand Plenciz of Vienna after like studies in 1762 declared that the phenomena of disease and the decomposition of animal fluids were entirely caused by living things (animalcules) which he found in these morbid conditions. Both sets of observations were crude and unconvincing but the weight of opinion was in favor of spontaneous generation. The doctrine prevailed more or less until effectually overthrown by Pasteur, Virchow, Koch and Kohn.

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[5] Burnham is said to have reported 350 operations done mostly at the homes of patients previous to the fifties.

THE GERM THEORY.

The parasitic or germ origin of disease was the direct result of the establishment of the dictum *omne virum e vivo.* A remarkable series of observations bearing on it preceded its final adoption, which deserve brief mention. In 1841 Henle published a prophetic paper entitled, "*Von den Miasmen und Kontagien*" which foretold with remarkable accuracy of detail the fundamental conditions of the germ theory. Fifteen years later (1856-59) Pasteur showed that the tartaric fermentation, the lactic, the alcoholic and acetic fermentations are correlated to a phenomenon of life, "an organization of globules" (cells). About the same time Cornalia was studying the little brown and black spots on the diseased silkworm, known as "corpuscles," paving the way for the magical results of Pasteur's later study of the same disease, by which the medical profession and the scientific world generally were to be aroused to the significance of germ life as the cause of disease in the higher animals. In his experiments Pasteur showed that infusions of organic matter, in which all germs had been destroyed by boiling, would remain pure not only for days but for months and even years, even when exposed to the air if germs were excluded. In like manner he showed that alterable liquids like blood and urine could be exposed to the contact of air deprived of its germs without undergoing the least fermentation or putrefaction.

These facts being determined, in May, 1865, Pasteur undertook the investigation of pebrine, or silkworm disease, which was ravaging the silkworm culture districts of the world. Beginning in 1845, by 1849 it had become a scourge, and by 1864 healthy eggs or seed could be found only in Japan. The disease developed as the so-called "corpuscles" which were little brown or black spots formed by the invasion of a bacillus of doubtful classification. They were found chiefly in the moths and chrysalides but also in the eggs and worms. Pasteur early concluded that it was not a new disease but merely an aggravation of what had always existed, easy of recognition by the microscope and remediable.

By his extensive and thorough studies all that he predicted was verified; while his method of opposing its spread, which was simply complete destruction of all infected worms and propagation by healthy eggs alone, was completely successful. By these means the disease was conquered by the end of the year 1869 and another link in the chain of the germ theory of disease forged. The energy with which Pasteur pursued the study of this subject possibly contributed to cause a paralytic stroke which overtook him on October 19, 1868, when he had just about concluded this work. Within a year, however, he had recovered and was soon again absorbed in one of the problems to which he was constantly devoting himself in the pursuit of scientific truth and human betterment.

At this time also, 1860-65, was progressing on the other side of the English channel a work scarcely less important in its bearing upon the origin of disease, a work less appreciated than it deserves, embracing as it did more than a germ of the truth. It was that of Lionel S. Beale, then professor of physiology in King's College, London. Like Pasteur he denied spontaneous generation and sought earnestly to refute it by methods similar to those of Pasteur. He was among the first to use the highest powers of the microscope and staining methods in demonstration of tissues which he resolved into germinal or living matter and formed material. To the former he also applied the term bioplasm, meaning simply living matter. It is justified for the same reason that the word biology is justified. Beale objected to the term protoplasm, then coming rapidly into use in Germany, England and America, because of the vagueness attached to it. Any living particle, however small, is a bioplast. A living white blood corpuscle for example, he said, is a mass of bioplasm or it might be termed a "bioplast." Bioplasm may have widely different properties benignant or malignant but it is structurally the same, *i. e.*, structureless. Bioplasm is self-propagating. Bioplasm is represented by nucleus and nucleolus while cell wall and peripheral cell contents are formed material into which bioplasm is being constantly converted at its periphery. So are the fibrillæ of connective tissue and tendon and the contractile substance of muscle, all of which he called formed material. Minute fungi and bacteria are bioplasm. Disease germs are bioplasm; but they, according to Beale, are the fragments or offshoots from other disease germs and not independent living entities. The air contains many disease germs of various degrees of virulence as well as germs which are harmless. Infusions of organic matter exposed to the air become rapidly swarming with such germs. Thus far Beale and Pasteur agreed but here they separated. According to Pasteur disease germs are separate living entities of vegetable nature whereas according to Beale they are living particles derived from preëxisting unorganized diseased animal matter. They are not, according to Beale, spores or bacteria, as Pasteur held, and Beale says flatly, "I am quite unable to subscribe to the argument advanced in favor of the vegetable germ theory of disease."

TUBERCULOSIS.

An early and important ground work in the evolution of the germ theory was the morbid process known as tuberculosis, having its most vivid expression in tuberculosis or consumption of the lungs. The contagiousness, the inoculability, in a word the specificity of the tubercle, proved by Villemin of Vâle de Grace in 1865, and confirmed three years later by Wilson Fox in England, was an important advance although it elicited the contemptuous denial of the French school of physicians who were wedded to the theory of spontaneous generation. Villemin did not discover the bacillus of tuberculosis. This was left for Koch in 1882 but Villemin first suspected the existence of a communicable virus and proved it by experiment. Previous to this had arisen the short-lived theory of the duality of phthisis, accepted for a time (1857-70) by Virchow, Buhl, Niemeyer and Rindfleisch, according to which the gray granulation or miliary tubercle was the only true tubercle while what was known as yellow or crude tubercle was nothing but cheesy inflammatory material, whence however arose the virus whose inoculation produced the grey granulation or true tubercle. The subjects of this cheesy infiltration were regarded as "phthisical but not tuberculous" until affected by miliary tubercle. Whence Niemeyer's dictum, announced in his classic lectures on pulmonary tuberculosis, "The greatest danger to most phthisical patients is the development of the tubercle." This theory was overthrown by Koch's discovery and gave way to the dictum now generally adopted that "all phthisis is tubercular."

ANTHRAX.

Very much the same reception was accorded in France to Davaine's discovery in 1863 of the bacillus of anthrax or gangrene of the spleen, a pest of great virulence which was destroying thousands of cattle and sheep in certain parts of France and elsewhere.

As far back as 1838, Delafond, a professor in the Alfort veterinary school, had demonstrated microscopically certain little rods in the blood of sheep dying of gangrene of the spleen, or "charbon" as the French also call it, but Delafond attached no importance to them. Pollander saw them in 1849, Davaine and Rayer in 1850. But their import was not recognized until eleven years later when, after reading Pasteur's paper on the butyric ferment, it occurred to Davaine that the filiform bodies seen in the blood in this disease might act like ferments and thus cause it. He proceeded to settle the question by inoculating rabbits with the blood of sheep that had died of it. Recognizing in the blood of the rabbits thus inoculated the same filiform threads, he called them bacteria and assigned them a place in the classification of living beings. The conclusion that they were the agents which caused the disease was, however, still deferred because of conflicting observations until Koch in Germany in 1876 and Pasteur in France in 1877 completed the link necessary to prove the announcement by Pasteur that "anthrax is therefore the disease of this bacteridium, as trichinosis is the disease of trichina, as itch is the disease of the special acarus, with the circumstance, however, that in anthrax the parasites can only be seen through a microscope when very much enlarged."

CHICKEN CHOLERA AND VACCINATION BY ATTENUATED VIRUS—IMMUNITY.

In 1869 Moritz, an Alsatian veterinary surgeon, noticed certain specklike granulation on the bodies of chickens struck dead with chicken cholera. Nine years later, 1878, Perroncito, an Italian veterinarian, figured the microbe contained in these granulations. Cultures were attempted but failed until Pasteur succeeded finally in 1880 with a broth of chicken gristle. Thence he learned that the microbe belonged to quite another group from the vibrios of splenic fever, intensely virulent to certain animals, as the chicken and rabbit, but almost harmless to the guinea pig.

However great the importance of the studies of the chicken cholera from the commercial and food standpoint (and it was very great), it was infinitely increased by the fact that they furnished the key to the successful treatment of certain infectious diseases of animals. What the silkworm disease contributed to the etiology of these diseases chicken cholera did for their treatment, for it was through chicken cholera that the effect of injection of attenuated virus became known. Some hens were inoculated with an old culture which had been put away and forgotten. The hens became ill but to the surprise of the experimenters they recovered. These same hens were then inoculated with some new virulent culture, but the "phenomenon of resistence" recurred. Then by using cultures of different ages, variations of mortality were obtained, eight hens dying out of every ten, then five, then only one and when the culture had become quite stale, none died, although the microbes could still be cultivated. Exposure to the air had produced this attenuation. Nay more, while hens which had never had chicken cholera perished when exposed to the deadly virus, those which had previously received attenuation inoculations and afterwards received more than their share of the deadly virus were affected with the disease in a mild form, sometimes even remained perfectly well. *They had acquired immunity.* This suggested to Pasteur that through artificial cultures there might be found a virus protective not only against the virulent diseases of cattle but also against others to which human beings are subject, as had already been done in the case of smallpox. The first application was made in vaccinating cattle against cowpox. In 1877-78 Raynaud in France, by injecting serum from a calf that had had cowpox, prevented the appearance of the disease in a calf freshly inoculated with the virulent poison. In August, 1880, Toussaint, a young professor in the Toulouse veterinary school, announced that he had successfully vaccinated sheep against splenic fever; but his methods were defective and it was left for Pasteur to complete the demonstration. This he did conclusively with the aid of his assistants, Chamberland and Roux, in a complete series of experiments concluded June 5, 1881. On June 13 he said at the Academie des Sciences: "We now possess virus vaccines of charbon, capable of preserving from the deadly disease, without ever being themselves deadly, living vaccines, to be cultivated at will, transportable anywhere without alteration, and prepared by a method which we may believe susceptible of being generalized, since it has been the means of discovering the vaccine of chicken cholera. By the character of the conditions I am now enumerating, and from a purely scientific point of view, the discovery of the vaccine of anthrax constitutes a marked step in advance of that of Jenner's vaccine, since the latter has never been experimentally obtained."[6]

Thus are linked the names of Jenner and Pasteur, the former discoverer of vaccination and exorciser of a disease the most loathsome and among the most deadly to which man is subject, the latter the agent through whom vaccination has accomplished the banishment of a disease of domestic animals more terrible than is smallpox for men, and ultimately to the stamping out of other infectious diseases of man.

ANTISEPTIC SURGERY.

During the Civil War I served as a dresser and acting assistant surgeon in U. S. A. hospitals of Philadelphia, where I had abundant opportunity to watch the progress of the treatment of wounds and operations. They for the most part did badly. Suppuration, pyemia, hospital gangrene, erysipelas and bed sores were found in every ward. Such a state of affairs, however, was not limited to this country but prevailed the world over.

Among those especially impressed was Joseph Lister, then regius professor of surgery in the Glasgow University and surgeon to the Royal Infirmary of Glasgow. He sought to combat the unfortunate condition in his own wards by scrupulous cleanliness but in vain. He then recalled the fact that subcutaneous fractures which occurred without breaking of the skin did very differently from compound fractures, healing promptly without complication, and he concluded that the difference was due to the decomposition and putrefaction of blood diffused through the tissues and between the ends of the bones, thus substituting a fluid of an acrid character for the ordinary bland and unirritating normal blood. Along side of these facts he placed the philosophic researches of Pasteur who had demonstrated convincingly that it is not to its oxygen or to any of its gaseous constituents that the air owes this property of decomposing organic matter but to "minute living particles suspended in it, which are the germs of various low forms of life shown by Pasteur to be the essential cause of putrescence, resolving the organic complex compounds into substances of simpler composition, just as the yeast plant converts sugar into alcohol and carbonic acid." Along side of this Lister also placed the then recently acquired knowledge of the effects of carbolic acid on the sewage of the town of Carlisle, England, in 1864, where it was found that this substance not only prevented all odor from the lands irrigated with refuse material but destroyed also the entozoa which usually infest cattle grazing on such pastures. He concluded that so powerful an antiseptic was peculiarly adapted for experiments of the kind he was then making with a view to clearing up the difficulties which presented themselves. He made his first attempt in 1865 in the Royal Infirmary of Glasgow in a case of compound fracture of the leg which he treated with carbolic acid. I will not follow him in his early failures partial successes and successes, other than to say that the ultimate results were brilliant triumphs. These results were formally announced by Lister in a paper read before the British Medical Association in Dublin, August 9, 1876, entitled the "Antiseptic Principle in the Practice of Surgery." These results, he claimed, established conclusively that the unhealthy course of such injuries was due to germs introduced, with the air, to contaminated dressings or to unclean hands of the surgeon.

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[6] In this country, Salmon and Smith in 1896 injected small and repeated doses of hog cholera into healthy swine and thus made them innocuous.

Other papers reaffirmed these results but this did not satisfy Lister. He repeated in the most patient manner the experiments of Pasteur in the support of the germ theory of putrefaction, confirming his results in every particular. He gradually extended the antiseptic methods to all operations and wounds. His practice at first included not only the direct applications of carbolic acid but sprays of the same substance diffused through the operating room to prevent atmospheric contamination by putrefactive organisms during operations. The usefulness of this measure was questioned after a time and Lister ultimately discarded it, admitting with true scientific ingenuousness that he was ashamed of having ever recommended it for the destruction of microbes in the air, thus seconding one of his German critics, Bruns, who said *"Fort mit dem Spray."* Though antiseptic washes and irrigations were continued some time longer they were ultimately discontinued and asepsis was substituted for antisepsis with results as complete and that, too, in operations which twenty-five years ago would have been regarded as fraught with danger and criminal indifference to life.

Let us pause here to compare very briefly the two men whose united work accomplished so much for humanity, Pasteur and Lister. Both represented the upper middle class to which the best education was possible, in both countries, the former receiving his at Besancon Royal College where he became a bachelor of science in 1842, the Ecole Normale and the Sorbonne; the latter at University College, London, and the University of London where he received the degree of A.B. in 1847. Both were untiring students, both indefatigable and precise investigators, testing every step by innumerable experiments. Pasteur was quick and excitable with strong features and a certain sternness of expression quickly dissipated by change of thought, humane and gentle alike to animals and human beings. Lister, cool and unexcitable, had also a strong face with kindly expression, patient and cheerful. Pasteur died September 28, 1895, aged seventy-three; Lister, February 11, 1912, aged eighty-five. Had Pasteur lived to the day of Lister's death he would have been ninety. Each received the highest honors it lay in the power of his country to bestow: Pasteur, fellowship among the immortals of the French Academy and adoration of his countrymen; Lister, a peerage and the homage of the Anglo-Saxon race. One of our members, Dr. Osborne, has commemorated his comparatively recent death by verse which attunes itself to his qualities and his services to humanity

LORD LISTER.

Again O Death, dark minister of woe!
 Thou smitest one amongst the healing train.
Who shielded many from thy ruthless blows.
 And tried to teach thee pity, but in vain.

Yet year by year thou wert denied thy prey;
  And age had gather'd round his honor'd head
Who drove the viewless visitants away,
  That once thy greed so amply comforted.

For now, in proof and sanction of his fame,
  No foes unseen their deadly meshes weave;
The deep recesses of our mortal fame
  The surgeon's hand can enter and relieve.

Lister, farewell! We weep not o'er thy grave;
  Thou art of those that sacred make the earth;
The royal hand a coronet gave
  Adorn'd, but added nothing to thy worth!

—R. O.

HYDROPHOBIA.

The year 1880 as yet knew no remedy for hydrophobia, a fatal disease, the horror and pathos of whose terminal symptoms are known the world over. The fact had not escaped Pasteur's notice and he was awaiting his opportunity. Hence when two mad dogs were brought to the laboratory of the Ecole Normale by M. Bourrell, an old army veterinarian, Pasteur promptly seized the chance and soon located the poison in the cerebral cortex and medulla oblongata of the animal, in addition to its saliva where it had been located by Bouley in 1870. Previous to Pasteur, Duboué of Pau, suggested these new sites but it was conjecture, unsupported by experiments. On the other hand, M. Galtier, a professor in the Lyons Veterinary School, had failed in every instance to produce the disease by inoculating nervous matter from the cerebellum and medulla oblongata of rabid dogs. Pasteur succeeded by a rigorous technic not known in other laboratories and in his report to the Academy of Medicine in 1881 announced that "the seat of the rabid virus is not in the saliva only; the brain contains it in a degree of virulence at least equal to that of the saliva of rabid animals."

Next he sought a method by which rabies could be contracted more surely and more swiftly, to increase its virulence. The microbe had so far eluded isolation. Pasteur had been unable to cultivate it in an artificial medium and decided to try the brain of living rabbits as a culture medium. In fourteen days hydrophobia appeared. Successive inoculations were made and as soon as a trephined and inoculated rabbit died paralyzed, a little of his medulla was inoculated into another. The time of incubation became shorter and shorter until after one hundred uninterrupted inoculations it was reduced to seven days. Pasteur had succeeded in intensifying the virulence. He could predict the exact time when death would occur. This virulent virus he called "fixed" virus in contradistinction to that conveyed by the bite of a mad dog. The next step was to diminish the degree of virulence. Pasteur applied the knowledge he had acquired in the study of chicken cholera and anthrax. He secured the attenuation by suspending in a sterilized vial, kept dry by fragments of caustic potash, portions of medulla from an inoculated rabbit until its virulence was extinguished, a fortnight being required. The attenuated virus thus obtained was injected under the skin of dogs and followed the next day by injection of medulla desiccated for thirteen days, next twelve days, next eleven days and so on until the highest degree had again been reached. Dogs thus treated might be bitten by rabid dogs or inoculated intracranially by the deadly virus and yet resist both.

Pasteur was now ready to apply the treatment to human beings. On July 6, 1885, a little Alsatian boy nine years old named Joseph Maister who had been bitten two days before by a mad dog, came with his mother to the laboratory. Pasteur made the first inoculation the same evening with a few drops of a liquid prepared from a portion of medulla oblongata fourteen days old, that had completely lost its virulence. Injections of increasing virulence were made from day to day and were promptly absorbed without untoward event. "Pasteur's anxiety was intense," says his biographer, "and kept him awake at night." At last the final day came, July 16, at 11 A.M. The treatment had lasted ten days and Maister had been inoculated twelve times. He returned to Alsace, July 27, and remained cured. Pasteur had triumphed and this was the date of his victory.

Notwithstanding these brilliant results the microbe of hydrophobia has not been isolated, only the contagium bearer has been found, whence we may conclude that it belongs to the group of ultra microscopic germs which, like that of yellow fever, still defies the highest powers of the microscope. For the present we must be satisfied with knowing its contagium bearers which are the saliva and nervous matter.

PATHOGENIC ORGANISMS.

It is impossible to follow these events in strict chronological order because some required months and even years for their evolution while others were revealed in a comparatively few hours. The bacillus of anthrax was the first recognized, perhaps because of its size, discovered in 1849-50 by Pollander and Davaine, though its significance was not recognized until much later. The spirillum of relapsing fever, discovered in 1873 by Obermeier in the blood of cases of relapsing fever, was among the first, probably, also, because it is a spirillum of considerable size as compared with the germs of other infectious diseases.

The bacillus of leprosy resembling very closely that of tuberculosis was discovered even earlier than the latter by Hansen in 1879. The bacillus of Eberth, or *Bacillus typhosus*, the cause of typhoid fever, was found by Eberth in 1880, two years earlier than the bacillus of tuberculosis by Robert Koch. The Klebs-Löffler bacillus of diphtheria was described in 1882-84 by the men whose name it bears. The peculiar comma-shaped bacillus, the cause of cholera, was also isolated by Koch in 1884; the bacillus of tetanus, the most deadly of all bacteria, was found by Nicolaier the same year.

The diplococcus of pneumonia or pneumococcus was shown by Fränkel, in 1886, to be the cause of this disease. The bacillus of influenza, or grip, one of the smallest bacilli thus far recognized, was discovered by Canon and Pfeiffer in 1902. The pleuropneumonia of cattle has lately been shown by Roux and Nocard to be caused by a bacterium also so small as to be scarcely visible by existing powers of the microscope. The bacillus of plague, or *Bacillus pestis*, was isolated by Kitasato and Yersin in 1894. Syphilis has been ascribed to several bacilli in succession. The last discovered, which is commonly admitted to be the cause, is the *Spirochaeta pallida* first described by Schaudinn in 1884.

It has been mentioned that in a certain number of diseases the pathogenic germ has not as yet been found. One of the most important of these is yellow fever, although the list includes scarlet fever, smallpox, measles and hydrophobia. Analogical reasoning demands their existence. Three explanations of fruitless search suggest themselves. First the germs may be ultra microscopic in size; that is to say, they may be so small as to be beyond recognition by our microscopes. The possibility is supported by the fact that the germs already discovered vary greatly in size, some that are recognizable being barely so. This is true of the bacillus of pleuropneumonia of cattle above mentioned, which, if a little smaller, would still have remained undiscovered. Or the disease may be due to an organism which is at times harmless and at others possesses virulent qualities. Thus there is reason to believe that puerperal fever and appendicitis may be caused at times by the colon bacillus which, ordinarily harmless, may assume a virulent type. Finally, the disease may be due to an organism of a different type from any yet recognized.

THE ROLE OF INSECTS AS THE CAUSE OF DISEASE.

While the majority of the germs which cause disease are vegetable in nature a few are of the animal class, protozoa. The best known of the diseases thus caused is malarial fever of which the cause is the *Plasmodium malariae*, discovered by the French army surgeon, Laveran, in 1880. Its complete development requires two hosts, one the blood of man the other the alimentary canal of the mosquito, whence it is communicated to man by the bite of one of the genus *Anopheles punctipennis*. The common everyday mosquito of this latitude is the *Culex taeniorynchus* whose bite is ordinarily harmless. Smilarly transmitted is yellow fever whose contagious germ has not been isolated. The rôle of the mosquito in this disease was first suggested in 1881 by Charles J. Finlay of Havana, although the suggestion was without tangible support. It was, however, confirmed in 1890 by the experiments of the American Army surgeons, Ross, Lazear and Carroll, of whom the last two unfortunately fell victims to their zeal. The mosquito concerned in this disease is the *Stegomyia fasciata*. A third disease of human beings for which the mosquito is responsible is elephantiasis due to the blocking up of the lymphatics by a threadlike worm, the *Filaria brucei*, whose embryos live in the blood of man whence they are taken by the bite of the mosquito, commonly the culex, and again injected into man at its next meal.

Similar is the origin of trypanosomiasis or the sleeping sickness due to the *Trypanosoma gambiense*, a worm like organism, quite as low in the scale of animal life as the *Plasmodium malariae*. It was discovered by Forde of Gambia in 1901. It is introduced into the blood of man by the bite of the tsetse-fly or *Glossina palpalis*. A similar disease, similarly fatal and similarly caused, occurs in horses.

Bubonic plague also requires the intermediation of a host for its propagation. The *Bacillus pestis* is transmitted by a *flea*, *Pulex cheopis*, which infests the rat and the ground squirrel. The infected rat may infect other rats and human beings. The very latest observation in this direction though not altogether confirmed as yet is that the ordinary bedbug, *Cimex lectularius*, is the host which conveys the cause of typhus fever from one person to another. One life has already been sacrified to researches on this subject, that of Dr. Pritchett who acquired the disease while studying it in Mexico. That the ordinary house fly may be the medium of transfer of typhoid fever from the bacilli-laden alvine discharges to localities whence it may enter the alimentary canal with food or drink has also been determined by the events of the South African and Spanish American wars. Amebic dysentery is caused by an ameba quite like the ordinary fresh water ameba.

The adoption of the germ theory of disease led to three most important advances, first, the preventive treatment of disease; second, the diagnosis of the infectious diseases; and, third, treatment by serums and vaccines.

THE PREVENTIVE TREATMENT OF DISEASE.

Attempts to prevent the occurrence of disease go back as far in time as disease itself, while public hygiene and physical culture were developed by the Greeks and Romans to a high standard. In the struggle for prevention the battle cry has been "remove the cause" but until bacteriology reached its present stage of development, culminating in the finding of the pathogenic organisms in so many diseases, the search was vain; while often favoring conditions and predisposing causes were mistaken for the actual cause. Perhaps the simplest illustration of this confusion can be drawn from the familiar disease of croupous pneumonia, which so frequently follows long exposure to cold and has, therefore, been ascribed to it. This belief seemed further confirmed by the fact that in many instances the disease was ushered in by a chill, the meaning of which was altogether misinterpreted. At the present day we know that pneumonia is caused by the diplococcus of pneumonia, and that the effect of cold is simply to furnish conditions favorable to its action, while the chill itself points to the moment of intoxication by the poison. Our efforts to prevent disease are therefore directed primarily to the organism causing it, and secondly to the favoring conditions without which often the specific cause can not operate. Every year brings further evidence to strengthen the views now accepted.

The second invaluable gift of the germ theory of disease is its aid in

THE DIAGNOSIS OF THE INFECTIOUS DISEASES.

This is accomplished in two ways, first by the recognition of the specific bacillus itself, as of the typhoid bacillus in typhoid fever, the bacillus of diphtheria in diphtheria, that of tetanus in lock jaw and many others. Second by the agglutination reaction of the specific bacterium with immune sera or what is known as serum diagnosis. The latter is best illustrated by the well-known Gruber-Widal test in typhoid fever, the result of studies begun by Gruber and his pupil Durham in 1894. Widal's name was added because the significance of the reaction in diagnosis was pointed out by Widal although he was anticipated by Grünbaum. It is too familiar to need repetition here. It may be said, however, that its discovery marked an era in the history of typhoid fever and its results give us the nearest approach to pathognomonic evidence of the presence of this disease. The same reaction succeeds a like technic in cholera.

THE WASSERMANN REACTION.

The most recent and important result of the study of bacterial physiology and pathology is the Wassermann test for syphilis. It is based upon the assumption of Ehrlich's "side-chain theory" that a given specific toxic agent, *antigen*, induces a reactive formation of specific amboceptors in the infected organism, while amboceptors serve to bind the protective complement of the patient to the antigen, for the destruction of the latter. Wassermann assumed that syphilitic antigen could be obtained in extract from syphilitic tissues (usually from the liver of a syphilitic fetus) rich in spirochaetes.[7] He assumed also that the specific amboceptor, capable of uniting complement with the syphilitic antigen makes its appearance in the blood of the syphilitic in at most a few weeks after infection. If in due proportions, therefore, there be added *in vitro* to a solution of the antigen serum of a syphilitic (heated to destroy the complement unfixed in it), complement from any source (as the serum of a guinea pig), there should after a time be effected a combination between the antigen and the complement. If, however, the serum of the suspected patient contained no antisyphilitic amboceptor the union can not be effected and the complement must remain free. This reaction can not be demonstrated, save as some other analogous but recognizable reaction is influenced by the mixture proposed.

A second hemolytic system is, therefore, arranged to be introduced into the test tube, containing as above indicated, the solution of syphilitic antigen, a serum suspected of containing antisyphilitic amboceptor, and a serum containing originally free complement. A suitable laboratory animal has been immunized by several injections of foreign red blood cells into its circulation. In its serum an amboceptor has been developed capable of binding the complement to similar foreign corpuscles to hemolyze them; and if its serum be heated (to destroy complement), this serum represents solely in this connection a specific antierythrocytic amboceptor. To the test tube first arranged for the syphilitic system, and set aside at body temperature for half an hour or more, there are now added washed red blood cells of the type used in immunizing the animal (heated to destroy complement, and containing only amboceptor).

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[7] Efficient modifications of the test employ lipoid substances from indiscriminate sources, as the heart muscle of an ox or of a guinea pig. Lecithin, glycocholate of soda, oleate of soda and even vasolin and cholesterin are said to be efficient. On the whole syphilitic extracts furnish the most uniform results.

In this combination a resection leading to hemolysis is possible, providing the complement added in the original step is free (*i. e.* has not been fixed to the syphilitic antigen). Hemolysis is not possible if the complement has been utilized in fixation by antisyphilitic amboceptor to the syphilitic antigen. If, therefore, the tube be again shaken slightly to mix, and placed aside in the incubator for a time (usually followed by a longer period in refrigerator), and be found thereafter to show hemolysis by its clear pinkish to red color, it is inferred that in the blood serum of the patient under examination no antisyphilitic amboceptor existed (*i. e.* he had no syphilitic taint). If, however, no hemolysis follow, it is held that such amboceptor does exist in the patient's serum, that it has effectually bound or "fixed" the complement provided in the experiment to the syphilitic antigen, and that none is left to complete the hemolytic chain.

In practice the method is carried out with controls in parallel tubes containing heated serum from a known syphilitic source and from a known nonsyphilitic for the sake of comparison; and in practice all the factors employed must be definitely determined by quantitative titration if reliable results are desired.

For carrying out the test the following are required: (1) Antigen, *i. e.* fluid containing syphilitic material, this is comparable to the pure culture of typhoid in the Widal test. (2) Serum or cerebrospinal fluid from the patient to be examined. (3) Sheep's blood cells. (4) Hemolytic antibody, *i. e.* inactivated serum of a rabbit immunized against sheep blood cells. (5) Complement, *i. e.* fresh normal serum from a guinea pig. For the syphilis antigen it is best to use the organs of a syphilitic fetus, *i. e.* one dead of hereditary syphilis, as these tissues are particularly rich in spirochaetes.

Noguchi has modified the Wassermann test making it simpler and quite as reliable. A detailed description of the technic of both methods is evidently out of place in an address like the present.

It may not be out of place to give some of the latest results collected by Bolduan in the last edition of his little book on "Immune Sera," published in 1811. Wassermann collected data on about 3000 cases as follows: There were 1010 tests on patients surely nonsyphilitic (controls), and not one of these gave a positive reaction. Of the 1982 surely syphilitic patients tested, those examined at the time when they had manifest symptoms reacted in about 90 per cent. of the cases. When the patients tested were without manifest symptoms, so-called "latent syphilitics," about 50 per cent. reacted. As a matter of interest it may be mentioned that Blumenthal and Wile tested the urine of syphilitic individuals and found that this too gave the reaction.

Marie and Levaditi examined the cerebrospinal fluid of 30 cases of general paresis. All but two of these patients gave a positive reaction. When the serum was tested in place of the cerebrospinal fluid the percentage of positive findings dropped to 59.

Michaelis examined 20 cases of general paresis and obtained a positive reaction in 18 of them.

Citron examined 43 tabetics and paretics, and obtained a positive reaction in 34 cases (79 per cent). He also tested the serum of 108 persons surely infected with syphilis, or suspected to be infected, and obtained a positive reaction in 80 (74 per cent). None of the sera from 156 surely non syphilitic individuals gave a positive reaction.

ADVANCE IN TREATMENT.

Still another result of the germ theory of the infectious diseases is the advance in treatment which grew out of it resulting in treatment by serums and vaccines. This improvement has not extended as yet to many diseases but were it limited to diphtheria alone its good results could scarcely be overestimated. The treatment which has thus arisen is loosely called serum treatment but if this term is retained it should be further divided into serum treatment proper, or treatment by antitoxins, and treatment by vaccines. The latter is also called bacterin therapy. The treatment by antitoxin depends upon the fact that in infectious diseases there is developed in the blood of the diseased subject an antitoxin which can be cultivated in another animal and extracted for use on still another animal having the same disease, *i. e.* the patient. As has been stated diphtheria is the disease in which the antitoxin treatment has been most successful. A similar but not as complete success has been secured in cerebrospinal meningitis with Flexner's antimeningitis serum. The same is true of the antitoxin treatment of tetanus and certain snake venoms. There seems reason to believe that a like treatment of infantile palsy may be successful.

The treatment by vaccines, or bacterin therapy, has a broader application and bids fair to equal in efficiency in some diseases, that of antitoxin. It consisted originally in the introduction of the living germ or microbe causing the disease into the blood, a microbe however, of a lower grade of virulence. Thus introduced there ensues a mild type of the disease which insures immunity against the more virulent form. Vaccination for protection against smallpox is the most familiar instance of this treatment. In the so-called opsonic vaccination, dead microbes are used. These do not set up a disease with a definite course but excite a multiple reaction, part of which is manifested by special phagocytic activities, and part by development of immune body. A vaccine may be in a solid form or it may be suspended in a fluid, as in salt solution or even in serum, whence the inclusion of vaccination under serum treatment.

Vaccine Treatment of Hydrophobia. The most brilliantly sucessful of the vaccinations, unless we except the most recent, that against typhoid fever, is that against hydrophobia, rendered possible by a long period of incubation which characterizes that disease. Under the circumstances the possibility of averting it from individuals bitten by rabid dogs occurred to Pasteur. I have already narrated the method by which he worked out this problem. Allowance being made for cases in which the victim escapes the disease because inoculation has been prevented by clothing, the mortality in rabies has been reduced from practically 100 per cent for Paris prior to the introduction of the Pasteur treatment, to 0.94 per cent. at the end of 1886 at the Pasteur Institute; and to 0:13 per cent, for 1905, or a mortality of two out of 1520 inoculations.

Treatment by Opsonins—Phagocytes. Students of the microscope have long been familiar with a protoplasmic unicellular fresh water organism sufficiently large to be easily studied with moderate magnifying powers and known as the ameba. It is characterized at ordinary temperature by active ameboid movements and the capacity of ingesting food particles by enveloping them in its protoplasm which dissolves and digests them. It was soon learned that the white blood cells in the human organism were the analogues of the ameba. Metchnikoff who had long been studying these cells was the first to ascertain that they had a special fondness for bacteria which they ingest and digest. These cells which include all leukocytic groups he called phagocytes. These observations, published in 1883,[8] have been confirmed and extended by others and to them is now assigned an important rôle in the resistance and arrest of the pathological processes dependent on microbes. In some instances the microbe, by exciting inflammation and the massing of migrated leukocytes becomes the instrument of its own destruction.

Vaccine Treatment by Opsonins. Among the vaccinations is the treatment of disease by opsonins, substances present in both normal and immune serum which so act on bacteria as to render them more vulnerable to the phagocytic cells. They prepare the bacteria to be eaten, whence the word opsonin from the Greek, "I provide with food." Their affinity for bacteria is specific, that is the opsonin for staphylococcus prepares only staphylococcus to be consumed by the phagocytes, the opsonin for tubercle bacilli prepares only these bacilli for the phagocytic feast and so on. A temperature of 60° C. destroys the opsonic property. Sir A. E. Wright called attention to these substances in 1903, while somewhat later Neufeld and Rimpau in experiments found what was evidently the same substance with like properties which they called a "bacteriotropic substance" evidently identical with Wright's opsonin. Hektoen has shown that the opsonins are distinct antibodies.

The treatment is really a revival of that suggested by Robert Koch for tuberculosis in 1901, a revival for which we are indebted to Wright and his pupils. The "opsonic index" is a term used to indicate the relative power of phagocytes to engulf and consume the microbes of a given disease. It is low when the leukocytes possess an abnormally feeble capacity for such consumption and high when this capacity is great. The treatment consists in the injection of an emulsion of specific bacteria (dead cultures), that of the staphylococcus in acne, furunculosis and abscess; the gonococcus in gonorrhea and the tubercle bacillus in tuberculosis. Wright and his pupils have published numerous cases successfully treated by this method, including especially those just named. Wright's claims have not, however, been altogether sustained by more recent observations in this country. The immediate object of the treatment is to raise the opsonic index. Directions are given for determining the opsonic index, a tedious process which need not detain us now. Moreover, it is really unnecessary to determine the index when using the treatment because we can judge of improvement as well or better by clinical observation.

Vaccine Treatment of Typhoid Fever. Up to the present time the most important of the various forms of vaccine treatment, because of its promising results, is the antityphoid vaccination for the purpose of securing immunity against this disease. In 1886 Fränkel and Simmons[9] showed that nonlethal doses of living typhoid bacilli protected small animals against fatal doses. In 1892, Brieger, Kitasato and Wassermann[10] showed that dead cultures were equally efficacious and that the immunizing substance lay in the bacillus itself. In 1896 Pfeiffer[10] and Kolle[11] immunized two men and showed as far as laboratories permit, the identity of the immunity following an attack of the disease and the artificial immunity produced by inoculation. The British Army, on the recommendation of Sir A. E. Wright, in the Boer war of 1897, was the first to use antityphoid vaccination. And on the advice of Robert Koch the Germans used it in 1904, in their army in Southern West Africa. Its use was authorized in the United States Army in 1909 on the recommendation of a board of medical officers, at first only on those volunteering to submit. But on the assembly of the maneuver division of the U. S. Army on the Mexican border in the spring of 1911, all the troops, 12,801, were subjected to the inoculation prophylaxis. Only two cases of typhoid occurred during the entire period of encampment, four months. Of these one of a mild type occurred in a private of the hospital corps who had not completed his immunization. The other case occurred in a civilian teamster not immunized. Although these results have been criticized they have been supported by such abundant evidence by further use of vaccination in our own army that it may be received as an accepted fact that typhoid fever can be averted by the antityphoid vaccination with as much certainty as smallpox can be averted by vaccination by the cowpox.

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[8] Arbeiten des Zoolog. Institutes in Wien, 1883, v., 5.

[9] Handbuch der Technik und Methodik der Immunitätsforschung, Vol. I., 423.

[10] Ueber Immunität und Giftfestigung, *Zeitschr. für Hygiene*, 1892, Vol. 12, 137.

[11] Experimentelle Untersuchungen, etc. *Deut. Med. Wochenschr.*, 1896, 735.

The advantages, including economy, of this treatment are emphasized when we recall the fact that in the short period of the Spanish American War there were 30,738 cases of typhoid in the army with 1580 deaths while 86.24 per cent. of the entire mortality of the war was due to this disease. This treatment for evident reasons is applicable for the most part only where large numbers of individuals are gathered under circumstances likely to breed typhoid fever. Such are nurses and hospital attendants, interns and even practicing physicians in the face of an epidemic. The effect is not permanent but experience has shown that it may be expected to last three years at least, and the plan at present pursued in our army is to vaccinate every three years. The vaccine consisting of killed typhoid bacilli is administered hypodermically in the left arm at the insertion of the deltoid muscle, in three doses at intervals of ten days, observing the usual antiseptic precautions. The reactive symptoms including soreness, headache and sometimes sleeplessness are ordinarily so trifling as to demand no attention.

Especial credit is due Dr. F. F. Russell and Dr. A. W. Williams of the U. S. Army upon whom devolved most of the work of introducing this form of prophylaxis, with the coöperations of the surgeon general and the medical corps generally. The titles of some of Dr. Russell's and Dr. Williams' papers are appended in the foot note.[12]

The accompanying table furnished me by Dr. Russell showing the most recent results of antityphoid prophylaxis tells its own story.

Year.	Cases.	Ratio per 1000 per annum.	Deaths.	Ratio per 1000 per annum.	Cases in vaccinated persons	Deaths in vaccinated persons.
1901	552	6.74	72	.88		
1902	565	6.99	69	.85		
1903	348	5.14	30	.44		
1904	280	4.77	20	.33		
1905	193	3.39	17	.29		
1906	347	6.15	15	.26		
1907	208	3.87	16	.29		
1908	239	3.20	24	.31	0	
1909	282	3.35	22	.26	0	
1910	198	2.43	14	.17	0	
1911	68	0.82	8	.097	12	1
1912	7	0.20	1	.003	3	0

The ratio for 1912 is based on experience for the first half year. Voluntary vaccination began in 1909. Compulsory vaccination began in March, 1911, at San Antonio, Texas, for Maneuver Division. It was made compulsory for all recruits in June, 1911, and for the entire army, September 30, 1911.

Curative Serum Treatment of Typhoid Fever. Chantemesse prepared a curative serum for which he claimed encouraging results amounting to a reduction of mortality to four per cent. as compared with eighteen per cent. in the various hospitals of Paris from April, 1901, up to October, 1904. I have not been able to find any recent reports on this serum.

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[12] Russell: The Prevention of Typhoid Fever by Vaccination and by Early Diagnosis and Isolation. Reprint from *The Military Surgeon*, 1909; The Prevention and Treatment of Typhoid Fever with Antityphoid Vaccine, *Boston Med. and Surgical Journal*, Jan. 5, 1911; Results of Antityphoid Vaccination in the Army in 1911, and Its Suitability for Use in Civil Communities, *Jour. A. M. A.*, May 4, 1912. Williams: Vaccination against Typhoid in the U. S. Army, *Am. Jour. Med. Sci.*, Mar., 1912.

In this country William Royal Stokes and John S. Fulton following Abel and Löffler experimented with a curative serum prepared after the manner of making antidiphtheritic serum and claimed for it also encouraging results. These were published in the *Maryland Medical Journal*, August, 1902, but the authors seemed not to have continued their studies.

Vaccination against Bubonic Plague and Cholera. One of the earliest if not the first of the vaccinations practiced after that for smallpox was that against bubonic plague introduced by Yersin, Calmette and Borrell conjointly in 1895. Dead cultures of plague bacilli injected subcutaneously into rabbits and guinea pigs were found to produce a certain degree of immunity against plague. Haffkine extended this treatment to man in China and India. Contrasted with the prophylactic treatment is Yersin's antipest serum and Lustig's serum for curative purposes after the manner of diphtheritic antitoxin, and prepared in the same way. A British Indian Commission reported favorably upon the prophylactic vaccine but a divided opinion exists as to the curative serum. The commission, however, reported that although the method of serum therapy as applied to plague has not met with the therapeutic success that attends the treament of diphtheria, nevertheless the method of serum therapy is, in plague as in other infectious diseases, the only one which offers the prospect of success.

Cholera prophylaxis was similarly secured first by Haffkine's efforts and some thousand of possible victims have been thus protected, and it may be said of cholera, bubonic plague and typhoid fever that vaccine injections have been distinctly successful, mortality as well as morbility having been diminished.

Vaccination against Tuberculosis. The treatment of tuberculosis by tuberculin in various shapes has been less satisfactory than could be desired. Nevertheless the concensus of opinion at the present day is that, with certain exceptions, tuberculin should be applied in all cases in which improvement is possible. The exceptions are (1) constant headache which awakens the suspicion that a localization in the central nervous system already exists; (2) nephritis, unless it be a tuberculous nephritis; (3) diabetes; (4) epilepsy; (5) pregnancy. Beginning with Koch's first disappointing efforts with the original tuberculin in 1900 several preparations are used, some of which are extracts or solutions and some are emulsions. The extracts include the filtered unheated culture broth, known as Koch's original or old tuberculin (O.T.), the watery extracts of von Ruck and Maragliano, and Baraneck's tuberculin known as Deny's filtered bouillon (B. F.). Deny's tuberculin is said not to differ from the original tuberculin of Koch. The emulsions include new tuberculin, tuberculin residue (T.R.), the bacillen-emulsion (B. E.) of Koch and tulase of von Behring. These last are preparations of the pulverized bacilli substance and are classed among the vaccines because theoretically they should confer more relative immunity than the extracts, but their uncertain absorption is a disadvantage. In point of fact one can not say from statistics which is the better. Antituberculous serum, analagous to antidiphtheritic serum, and bacterial vaccine from cultures made with sputum according to Sir A. E. Wright's method have been used; also antistreptococcic or streptolytic serum, the last to combat the supposed mixed infection. Antituberculous serum has been administered by the mouth and rectum. Rectal administration is said to be preferable.

Serum Treatment of Cerebrospinal Meningitis. One other application of serum treatment deserves to be mentioned, namely that of cerebrospinal meningitis by the Flexner serum in which the results appear to be second only to those of diphtheria and typhoid fever. It is difficult to compare accurately the result of serum treatment with those of patients not treated with serum in a brief summary because so many conditions modify results, such as the age of patients, the stage of the disease at which the injection is made, and the fluctuation of epidemics; but throwing together all groups of cases, nowhere, according to Flexner, was the mortality of those not treated by serum less than seventy per cent., while in those treated by serum nowhere was it more than twenty-five per cent. Indeed the latest results fall below fifteen per cent. Dr. Flexner is emphatic in requiring the cases to be strictly meningococcic, *i. e.*, cases caused by the true meningococcus and not the diplococcus of pneumonia or tubercle bacillus both of which produce a form of meningitis. It will be remembered that the injection is made into the spinal canal and Dr. Gilman Thompson says it is his custom not to wait for the bacteriological report but to inject the serum at the same time that the tapping of the spinal canal is made, since the beneficial effects are directly as the promptness of the injection after the clinical diagnosis. It is evident from what has been said that the positive diagnosis is possible only by the aid of the bacteriological examination.

Doubtful Results of the Serum Treatment. Passing on to the more discouraging aspects of the situation we have to acknowledge the complete failure of similar efforts in the treatment of the carcinoma by the Hodenpyl anticarcinoma serum; of pneumonia by pneumococcous vaccines and serum; of colon infection by corresponding vaccines; of the doubtful result of autoserotherapy and of the treatment of general streptococcous and staphylococcous infections and in pyemia; also the doubtful result of the Roger-Beebe serum in exophthalmic goiter. In bacillary dysentery no effect has been noted on the incidence of the disease but a great decrease in the mortality of those inoculated is claimed. In localized staphylococcous infection, especially furunculosis, results have been more satisfactory than in acne. It will be remembered that Wright and his pupils claim good results in cases of severe acne, multiple boils, lupus, tuberculous glands and bone tuberculosis. Tuberculous glands have seemed to respond favorably. Good results are claimed for gonococcous vaccines in localized gonorrheal infections, those of the joints especially, in subacute and chronic cases, while in acute urethritis vaccines have not proved useful and are of doubtful value in chronic infections.

Chemotherapy—Treatment by Salvarsan. No less important than the Wassermann test for syphilis is the even more recent treatment of syphilis with "salvarsan" or "606" suggested by Ehrlich. Salvarsan is the hydrochlorid of dioxydiamidoarsenbenzol. It is a bright yellow powder containing theoretically 34.15 per cent of arsenic. It is administered subcutaneously, intramuscularly and intravenously in suspension or solution with the addition of NaCH to neutralize, thus forming dioxydiamidoarsenobenzol + NaCL and H_2O. Its study, too, is in its experimental stage with results which do not reach early expectation.

THE X-RAY.

Perhaps the most brilliant and far reaching addition to our medical armamentarium in the last fifty years is the *x*-ray. The germ of the *x*-ray lay in the peculiar luminosity of the vacuum tubes of Geissler (1858-59) and of Crookes (1875) when traversed by a discharge of electricity. Many of us remember these tubes as special novelties in the lectures on electricity to which we listened with rapt attention in our school days. But in these early experiments neither Geissler (1858-59) nor Crookes (1875) produced the *x*-ray. Their tubes were of too low vacuum, though Crookes' were much higher than Geissler's.

An important fact in this connection, discovered by Bittorf as early as 1860, was to the effect that the luminous stream of an electric discharge into a Geissler tube could be deflected by a magnet.

Later (1893-94) Crookes, Jackson and Lenard used tubes of much higher vacuum. In the course of their experiments these observers added many other facts, including, by Crookes, the disappearance of the luminous glow within the tube as the vacuum is increased and the substitution of a scarcely visible rectilinear bundle of rays emanating from the cathode and ascribed by Crookes to a projection at great velocity of particles of highly attenuated gas or electrified matter. This radiation Crookes called cathode rays, better named the cathode *stream*. He found these rays could be intercepted by metallic plates within the vacuum tube and that their impact against the glass wall of the tube produced a greenish phosphorescence and fluorescence with high temperature: also that they could be deflected by a magnet outside the tube, like the luminous stream above referred to.

In 1891 Hertz found that the cathode rays could penetrate gold leaf and other thin sheets of metal within the tube. After his death his assistant, Lenard, continued his studies and learned that many of the phenomena of the cathode rays could be observed outside of the Crookes tube. Experimenting with a vacuum tube closed with a tin sheet or window of aluminum at the end opposite the cathode, he found that the radiation through or from the aluminum wall of the tube would pass out into the open air apparently through many substances opaque to ordinary light; and that after passing through such substances it would excite fluorescence in many salts and affect sensitive photographic plates just as ordinary light does. These phenomena were all ascribed to the cathode rays until Röntgen, by the aid of the additional facts, cleared up the matter. Among these facts were, first, that the *x*-ray appears to emanate only from those parts of the glass of a vacuum tube which are rendered fluorescent by the action of the cathode rays. Second, that their presence may be detected by their effect upon various fluorescent substances. Third, that objects placed between a fluorescent screen and the source of the rays may be made to cast a shadow upon the screen. Röntgen himself, placing his hands in this position, saw the shadow of its bones strongly cast and surrounded by the weaker shadow of the flesh; in like manner he produced shadow pictures of metallic objects in a wooden box. Fourth, that all substances are transparent to this radiation though in different degrees, the transmission being generally speaking inversely as the density. Fifth, that though this radiation passes readily through cardboard which is opaque to ordinary light it does not produce the sensation of light. In other words the *x*-ray is invisible. Sixth, that it can not be dispersed, refracted or reflected to any appreciable extent and that it can not be deflected by a magnet. This is in contradistinction to Bittorf's discovery already mentioned that the luminous stream of an electric discharge into a Geissler's tube can be deflected by a magnet and of Crookes' discovery that the same is true of the cathodic rays. These results Röntgen communicated to the Physico-Medical Society of Wurzburg in 1895.

The possibilities which lay in these properties were evident at once and their application was as prompt as their recognition. The announcement spread like wildfire and the experiments were repeated with numerous modifications in all parts of the world resulting in a confirmation of all that Röntgen claimed. Having become familiar with the above facts the following explanation furnished by my friend, Dr. H. K. Pancoast, will be better understood. "The cathode rays, or more properly speaking the cathode stream, is composed of matter and comprises the negative corpuscles, or the ultimate constituents of all forms of matter or all elements. It is through their agency that electrical conductivity through gases is accomplished. They carry the electrical charge through the *x*-ray or Crookes' tube and their bombardment upon the target of the *x*-ray tube gives rise to the production of *x*-rays, which are impulses through ether, similar to, but by no means identical with, light and heat waves. The so-called cathode rays are, therefore, *material* while *x*-rays are not."

The essential apparatus for the production of *x*-rays are a vacuum tube highly exhausted and an appliance for exciting an electric charge of high potential between the ends of the tube. Such may be a static machine or an induction apparatus operated from an electric light main or the high frequency or Tesla coil. Of these the first only is a primary generator, the others being devices for transforming low electric potentials into potentials high enough to produce the *x*-ray in the vacuum tube.

Shadow photographs of objects placed between the photographic plate and the vacuum tube may be taken. Since the *x*-ray can not be brought to a focus by means of lenses the process is somewhat difficult. The plate is wrapped in black paper to keep out ordinary light and set up at some distance from the tube and in such position that the *x*-rays emanating from the tube will fall on it. The object whose shadow is to be photographed is interposed between the plate and the *x*-rays. The picture may be sharpened by a perforated diaphragm of heavy metal placed in front of the tube. After a suitable exposure the plate is developed. In it, dense areas appear clear while more transparent parts are dark. In the printed photograph or skiagraph the reverse appears. Photographs thus obtained have been variously called skiagraphs, skotographs, radiographs, shadowgraphs, kathodographs.

We have seen that certain substances fluoresce when the *x*-ray falls upon them. Such are the double cyanid of platinum and barium, of platinum and magnesium, of platinum and calcium, the oxid of zinc, the tungstate of calcium and others. If a surface be strewn with one of these substances and placed in the path of the *x*-ray it will glow with a pale light as though the substance were faintly incandescent. If any object be interposed in the path between the vacuum tube whence the *x*-rays emanate and the fluorescent screen it will cast a shadow on the screen which differs materially from that cast by ordinary light. This is because many substances which are opaque to the ordinary visual rays are transparent to the *x*-ray and the reverse. It is now recognized that the density of any substance to *x*-rays corresponds practically with the atomic weight of its constituent elements. Wood, paper, almost all vegetable and animal substances such as wool, leather, cotton and silk are transparent to the *x*-rays. Metals, glass containing lead and many mineral substances absorb them. Bones also are comparatively opaque.

The fluoroscope is an instrument based on these facts. It consists of a screen or sheet of cardboard coated on one side with minute particles of one of the substances named, usually the double cyanid of barium and platinum or the tungstate of calcium. This screen is mounted at one end of a hood of opaque material with an opening for the eye of the observer at the opposite end. If the fluoroscope is held to the eyes with the screen at a distance of twenty to forty centimeters from a vacuum tube in which *x*-rays are being generated the surface of the screen is uniformly illuminated.

Now if any object be held between the screen and the tube we see the shadow of those portions that are opaque to the *x*-ray. If, for example, a ringed finger be held in the paths of the x-rays, the muscular substance of the finger will cast a faint shadow, while each bony phalanx will stand out distinctly and the ring surrounding the finger will be most distinct. In the study of phenomena in living beings the fluoroscope sometimes has an advantage over the skiagraph in that movements of certain of the organs of the body may be recognized and studied while the photograph shows the object only at rest at any one stage of such moving body. The heart and aorta are especially well studied in this way and peristaltic movements of almost the entire digestive tract may be observed.

The X-ray in Diagnosis. The most important early application of the x-ray in diagnosis was in the recognition of fractures and dislocations. Subsequent development in the technic has made it the most exact and painless method of determining the presence, nature and extent of bone and joint injuries, as well as an aid to obtaining the best results in the treatment. Another early use was the detection of the presence and location of foreign bodies. Subsequent developments in technic and apparatus have rendered localization so exact that even foreign bodies in the orbit can be located with absolute precision.

Along other lines, the scope and accuracy of x-ray diagnosis has depended upon the development of apparatus, the most important perhaps being those improvements in the means of shortening radiographic exposure.

Among the first important applications of x-ray diagnosis at the present time may be mentioned the following:—

In disease of bones and joints, determining the presence, location and extent of lesions, especially the earlier stages.

In connection with the urinary tract, the most important application is in the diagnosis of urinary calculus. In this it has become by far the most exact method, with but a small percentage of error, which is growing less every day. Changes in position and size of the kidney may be readily shown. Among the later possibilities, especially in conjunction with catheterization of the ureter and injection, are the determination of hydronephrosis, pyonephrosis, obstruction of the ureter, kinks, etc.

In dentistry, x-ray diagnosis has a wide field of usefulness in the detection of alveolar abscesses, necrosis, impacted and nonerupted teeth, pyorrhea, and other conditions.

In rhinology, it is of great value in the diagnosis of sinus disease, and in otology, mastoid disease.

In the diagnosis of thoracic conditions it has a wide field of usefulness, and among its important applications may be mentioned the diagnosis of pulmonary tuberculosis, especially early lesions, aneurysms and dilatations of the aorta, mediastinal growths and glandular enlargements, pleural and pericardial effusions, variations in the size of the heart, etc.

In the digestive tract, its most important applications are in connection with esophageal strictures and diverticula, viseroptosis, gastric motility, and obstructions in the large bowel. It is now becoming more and more to be relied upon in the diagnosis of gastric carcinoma and the determination of the presence of adhesions. X-ray students have taught us much in connection with the movements and functions of the stomach.

Therapeutic Uses of the X-ray. The first successful application of the x-ray in therapeutics was in the treatment of lupus vulgaris in which it is almost invariably effectual. It has now become one of the generally recognized therapeutic agents of the dermatologist. It has proven a valuable agent, with or without surgical or other measures, in the treatment of epithelioma and carcinoma. In glandular carcinoma it has accomplished much good but should never be employed to substitute the prompt use of the knife. It is only possibly helpful in the prophylactic treatment of the cicatrices after operation.

It is regarded as an agent of great value in the treatment of tuberculous adenitis. In leukemia and pseudoleukemia it is practically the only means of value we possess in alleviating these diseases, although in the former, it has not as yet permanently cured a single case.

Such are some of the most important advances in medicine in the past fifty years, since I entered the profession. What is their import? Omitting the results of vaccination against smallpox, whose beneficence had been widely scattered during the half century prior to 1860, but not so effectually as in the last half century when it has practically stamped out the disease, we have in the evolution of the germ theory first the extermination of the silkworm disease, by which an industry almost annihilated was revived and millions of francs added to the wealth of France and Germany as well as remunerative occupation to their people. Second, even greater was the saving in the elimination of anthrax, a mysterious disease which caused the death of thousands of cattle, sheep, horses and even human beings in France, Russia and elsewhere; death succeeding in a few hours with a horrible tendency to decomposition. In the province of Novgorod in Russia 56,000 head of cattle died of the disease between 1868 and 1870.

Words can not describe the benefit that has been derived from antiseptic surgery in a hundred different directions, including the saving of lives of thousands who without it would have perished.

The mortality of diphtheria has been reduced between 50 and 60 per cent.; that of hydrophobia from practically 100 to 0.13 per cent.; that of cerebrospinal fever from 70 to 25 per cent.; that of plague and cholera has been greatly diminished. It would seem that the incidence of typhoid fever can be made almost *nil*, and it would seem also that the most dreaded and intractable of all diseases, syphilis, is likely to yield to remedies which modern science is bringing to bear upon it.

The *x*-ray has penetrated the sealed recesses which have been so long hiding certain secrets of disease, and revealed them one after another in broad relief from surrounding media; nay more, has destroyed many of them by the same agency which exposed them.

In the presence of these facts who shall say that the science and art of medicine have not progressed in a degree reasonably commensurate with other sciences and that another half century may not reveal truths as startling as those which make the physical world to-day a marvel of unexpected developments of man's genius.

ORIGINAL ARTICLES.

A STUDY OF BREECH PRESENTATIONS.

BY ALICE WELD TALLANT, M.D.,
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(Read before the General Meeting of the Medical Society of the State of Pennsylvania, Scranton Session, September 25, 1912.)

The first case of breech presentation that I ever saw made a particularly deep impression on me, because the patient was a personal friend. She was delivered in a well-appointed hospital by a member of the attending staff, after what seemed like an unusually short and easy labor, yet the baby was stillborn, without a flicker of a heartbeat. Perhaps the memory of this case has given me an undue sense of the dangers of breech presentations, yet, if the textbooks are right in estimating the fetal mortality in general practice at from ten to thirty-three per cent., my feeling is perhaps not unreasonable.

This paper is based on my experience during my seven years' service at the maternity of the Woman's Medical College of Pennsylvania, a hospital which, beside receiving patients into its wards, maintains for its students an outpractice in the poor foreign quarter of Philadelphia, and the material is drawn from about 3500 births (3480, to be exact). Among these, including premature and macerated, living and dead children, there were 107 breech presentations, giving the usual frequency, three per cent.; if we count only those born at or near term, the proportion drops to two and a half per cent. Twenty-four of the babies were twins, and in four cases both were born by the breech, so that the number of mothers was 103.

As a factor in causing breech presentations multiple pregnancy, with its twenty-four cases, takes the lead, while prematurity is second with nineteen (six of these were macerated), and contracted pelvis (with a diagonal conjugate of 11.5 centimeters or less) comes next with fifteen. Among the less frequent factors were justo major pelvis, one case of hydrocephalus and one of bicornuate uterus.

Our series does not bear out the common idea that breech presentations are far more often met with in primiparæ. While it is true that there were three times as many multiparæ as primiparæ (78:25), the statistics of our 3480 patients also show a ratio between multiparæ and primiparæ of about three to one, so that the incidence of breech presentations was about the same in one as in the other.

A tabulation of the variety of breech presentation in the ninety-six cases where it was observed, shows frank breech in nearly three fifths of the cases and footling in more than one third. The complete breech is apparently not common, and the knee was not found presenting. Authorities differ considerably as to the frequency of the different positions. Williams finds the sacrum to the left in two thirds of his cases; Edgar reports L. S. A. as most frequent and R. S. P. next; the records of Boston Lying-In Hospital make the anterior positions more common. According to our records the anterior positions represented more than seventy-five per cent. of the whole number, with L. S. A. over forty-five per cent. and R. S. A. over thirty per cent.

In the matter of diagnosis, external examination alone is often unsatisfactory or even misleading, especially if the patient is a primipara with tense abdominal walls, or is examined during labor when the uterus is firmly contracted. Usually the high position of the fetal heart (at or near the level of the umbilicus) is a helpful point, but even this may fail. In only forty of our histories of single births is the exact position of the heart stated, and in nine of these it was heard well below the umbilicus. Mistakes may also be made by internal examination, when the breech is not engaged or is concealed by a tense bag of waters, but after the rupture of the membranes there should be little trouble; and we have not been beset by the classic difficulty in distinguishing between a knee and an elbow. Personally I find that the heel of a sharply flexed foot feels more like an elbow than the knee does, and may occasionally confuse the diagnosis.

It is usually stated that breech presentations prolong labor, especially in the first stage, because the breech is a less efficient dilating wedge than the head. In our series, omitting the twin cases, the average duration of the first stage in a primipara was sixteen and one third hours, in a multipara eight hours, while the corresponding averages in 107 vertex presentations were fifteen and a half and nine, so that the prolongation was hardly marked, unless this is simply a chance statistical vagary.

The complications encountered were those usually mentioned, with prolapsed cord in five cases and premature separation of the placenta in three. There were six cases of rigid cervix, which delayed labor to such an extent that extraction was necessary in three of them.

In considering the course of labor, its management and prognosis, I shall leave out the cases of non-viable or macerated fetus, since they are obviously valueless in this connection, and base my further conclusions on the records of ninety-six babies and ninety-two mothers. In fifty per cent. of these cases the birth was spontaneous, and in about fourteen per cent. some assistance was necessary at the end to hasten the delivery, not because the mother was unable to deliver herself, but because the child's life would have been endangered by further delay. This leaves fully thirty-three per cent. in which extraction was used, besides a hydrocephalic fetus on which craniotomy was performed. In four cases manual dilatation of the cervix was necessary, before extraction. The routine method for the delivery of the head was by the Mauriceau maneuver, combined with suprapubic pressure on the fundus; in two cases forceps were applied to the after-coming head.

So large a proportion of extractions (1:3) may seem to need explanation, although De Normandie found an even higher ratio (1:2.2) at the Boston Lying-in Hospital. There were nine extractions among the twin cases, all but one on the second child, because of inertia or delay in labor. In the twenty-four among single births prolapsed cord (four cases), placenta prævia (one) and impacted breech (four) were all important indications; but in twelve, or one half the cases, extraction was undertaken on account of prolonged labor or slow advance with maternal exhaustion or inertia. Indeed there are but three cases for which no reason can be assigned and in which the zeal of the physician may have been the chief factor.

Frequent perineal lacerations are practically inevitable in breech cases, because the breech does not dilate the vaginal opening sufficiently to allow the passage of the larger head without further stretching, for which time is often lacking if the child is to be born alive. In our series lacerations occurred in twenty-four cases, or twenty-six per cent. I am by no means proud of these figures, but I am free to say that I prefer them to twenty-six per cent. of stillbirths, and that I do not believe it is in human nature to prolong the delivery for the sake of an intact perineum, with the possible risk of turning the scale against the child. Although the number is so large, there were few bad tears (less than one half were of the second degree) and no case of complete laceration.

Apart from this increased number of lacerations the prognosis for the woman should not be affected by the presentation. It is true that there was one death among the 103 mothers. This patient had been carrying a dead fetus for about five months. Labor was induced and she was easily and spontaneously delivered of a horribly macerated seven-months' fetus. Three quarters of an hour afterward a profuse and almost fatal hemorrhage occurred, and the patient succumbed to sepsis about two weeks later. It is plain enough that this case has no bearing on the prognosis of breech presentations.

Injuries to the child are often recorded, and we must confess to our share, four in all. Three were fractures: one of the humerus and one of the clavicle resulted from the efforts to bring down an extended arm, and one of the femur was caused by traction in the groin. The other injury was a brachial paralysis of the Duchenne type, after a delivery requiring partial extraction.

Among the ninety-six viable children there were twelve stillbirths, a gross mortality of twelve and a half per cent. Three of these bear no reference to the presentation, as one fetus was the hydrocephalus on which craniotomy was performed, and two were already dead *in utero* (one placenta prævia, one premature separation of the placenta), when the case was first seen. The mortality due to the presentation is thus nine cases, or nine and one fourth per cent. Two other deaths, although caused by the presentation, were not due to our management, as both babies were dead (one born, and one partly born, with a nonpulsating prolapsed cord) on the arrival of the physician. Undoubtedly one and probably both of these lives could have been saved, if the doctor had been called earlier.

For seven stillbirths (seven and one third per cent.) we must hold ourselves responsible. Three were in spontaneous labors, in which I believe that the second stage was allowed to go on too long and, if I had them to do over, I should not hesitate to perform extraction. In two of the extractions there was delay in the delivery of the head; manual dilatation had been done in both these cases, and in one the cervix closed down on the head.

On account of the high fetal mortality the best treatment for breech presentations is prophylactic, and the presentation should be changed to a vertex by external version during the latter months of pregnancy, whenever this is possible. In the management of a case after the onset of labor, there are various factors to be considered, which influence the prognosis for the child. A long first stage does not necessarily mean danger, provided that the membranes remain intact, and Edgar even advocates as a first principle the prolongation of this stage to secure full dilatation of the passages. If early interference is unavoidable, manual dilatation must be most thorough, as the attempt to extract the child through an imperfectly dilated os, by causing extension of the arms and delay of the head, is even more disastrous than in a forceps case. As in vertex presentations, a dry labor is more likely to call for operative interference and adds to the danger for the child. In twelve cases, when the membranes ruptured more than five hours before delivery, there were two stillbirths and seven extractions.

Delay in the second stage is quite another matter and in my experience so often means danger, even when careful watch is kept of the fetal heart, that although starting with a waiting policy, I have become convinced of the saving grace of prompt interference. More perineums may be sacrificed, but more babies will be saved. It is more than a coincidence that of the seven stillbirths just discussed six occurred during our first fifty-three cases and only one during our last fifty-four.

The unfavorable effect of contracted pelves on breech presentations is well known. Excluding a case of macerated fetus, there were fourteen cases of contracted pelvis (twelve if we omit twin pregnancies) with two fetal deaths and seven extractions.

The association of twin pregnancy with breech presentations is not a complication in that it involves added danger to the child, as there was but one stillbirth in the twenty-four twin cases. It does mean a greater number of extractions (thirty-seven and a half per cent. against thirty-three per cent. in single births), but the smaller size of the babies makes the extraction much easier. Moreover as the child extracted is usually the second twin, the birth canal has been well stretched for it by the passage of the first one.

My conclusions may be summed up as follows:—

Breech presentations occur with almost equal frequency in primiparæ and multiparæ, and are often found in twin pregnancy.

Labor is not specially prolonged.

The maternal mortality is not affected by the presentation, but perineal lacerations are frequent.

The infant mortality due to the presentation should be less than ten per cent. The mortality is higher in cases of contracted pelves.

Full spontaneous dilatation should be secured and the membranes kept intact, whenever possible. The second stage of labor should not be allowed to prolong itself. Early extraction is often life-saving.

In other words, the best management of a case of breech presentation is in the first stage patience, in the second, action.

DISCUSSION.

Dr. A. J. Winebrake, Scranton: I always felt as the reader of the paper does about breech presentations, before I spent a winter in the Rotunda Hospital in Dublin. I thought the best management for such was patience in the first stage and action in the second. If you should see the management of these cases there, you would say patience in the first and more patience in the second stage.

Usually there is too much traction applied in obstetrics, we lose sight of the mechanism in cases of breech presentation. If the feet are let alone when there is sufficient dilatation the feet and legs will come down over the abdomen, thus doing much good because they cause more dilatation than if brought down before the buttocks.

If traction is not applied the uterus, contracting in its long axis, pushes the head into the pelvic inlet and draws the uterus up over the head, a finger can then be introduced into the vagina drawing down first one arm and then the other very easily. If traction is applied in the second stage the head is pulled down with the uterus contracting around the neck and there is the diameter of the head plus that of the uterus at the pelvic inlet. Many men have a habit of delivering the arms rapidly, forgetting that the head and shoulders come down in different obliques, then put a finger in the child's mouth when the shoulders are externally transverse, and the head internally above the pelvic brim in the anterior posterior diameter, with one end of the diameter on the pubic bone, the other on the promontory. If, when they apply forceps, they would rotate head to its proper diameter instead of using traction there would be less fetal mortality and maternal morbidity with breech presentations, according to my experience.

Dr. Tallant, closing: My principle with regard to patience and action has simply been the result of my experience. I have been, I think, too patient in the first part of my series of cases and in spontaneous labor, not in the cases in which extraction was done.

THE USE AND ABUSE OF THE THYROID IN OBESITY.

BY HENRY D. JUMP, M.D.,
Philadelphia.

(Read at the General Meeting of thê Medical Society of the State of Pennsylvania, Scranton Session, September 26, 1912.)

Attention was first directed to the use of thyroid in obesity in 1883, when Reverdin and Kocher described the conditions supervening in patients after complete thyroidectomy, and the consequent improvement in these conditions from the administration of fresh thyroid from the sheep. In addition to this, there was a marked decrease in weight. Subsequent studies in the physiology of the gland have shown that the most important effect produced by thyroid feeding is catabolism of fats and proteids. The fats are attacked first, but the catabolism extends to the proteids long before all of the fat is destroyed; that is, thyroid has not a selective action for fats alone. It is generally thought that the circulatory proteids are attacked in preference to the tissue proteids or muscles but that ultimately these are disintegrated to the marked disadvantage of the body. As a result of this catabolism there is an increase in the quantity of urine and a loss of weight. During thyroid feeding, the body is unable to assimilate full quantities of sugar and unless the ingestion of sugar is limited glycosuria may develop. In consequence of the publication of these facts, the use of the thyroid in obesity became general and much harm was done by its excessive, ignorant and injudicious administration.

Thyroid has an unmistakable action in reducing obesity but in some cases its advantages are more than counterbalanced by its frequent toxic action. One can not determine beforehand, for instance, by the ordinary means of examination, whether the heart will be adversely affected by the remedy or not. There are some people who can not take even small doses and there are some who can not take sufficient to cause any reduction before the signs of hyperthyroidism occur. The first symptoms of overdosage are tachycardia, breathlessness and weakness. If the overdosage be persisted in, the following additional symptoms appear,—tremor, sweating, insomnia, fever, diarrhea and syncope. Death from heart failure has been known to occur.

Commercial antifat remedies, as Manola, Rengo Fruit and Obesity Food, which contain thyroid, have placed the remedy in the hands of the public and much evil has resulted from the use of such without medical supervision. Von Notthoft reports the case of a man who developed a typical picture of Graves' disease as a result of taking a thousand tablets of thyroid in a few weeks. It took ten months for him to recover from the condition.

Formerly, owing to the lack of standardization in the preparations of the gland on the market, there was a considerable amount of confusion, even among physicians, as to its proper dose. For instance, one maker's preparation was about the strength of the present official preparation; another's was two and a half times as strong; another's five-sixths as strong. This is changed now and we have the official glandulæ thyroideæ siccæ, one grain of which represents five grains of the fresh gland, and practically all pharmaceutical houses follow this standardization. The glands in different animals vary in strength of iodothyrin, the active principle, but where many are used in making the official preparation, the rich will average with the poor and one may be assured of a fairly constant standard product from the laboratories of reputable manufacturers.

From the nature of this agent, a putrefactive change may take place in it and to this may be given the credit for some of the evil effects seen in the administration. This possibility, however, may be overcome by the use of iodothyrin which is marketed in a sugar of milk mixture of such strength that five grains of it equal one grain of the official dried gland. Therefore, the thyroid must be considered a powerful and dangerous remedy for two reasons: First, because of its marked tendency to injure muscles; second, because of its indeterminate action on the heart. The gland is a dangerous agent and so are morphin and the coal tar analgesics; none of these can be used carelessly nor in big doses nor by the laity without supervision. Indeed any useful drug may become harmful if abused. But in spite of the results which may occur, I believe there is a distinct indication for thyroid feeding in certain cases of obesity.

It is in the endogenous or constitutional or thyrogenous obesity, where there is a small or inactive thyroid and poor catabolism, that it is most useful. It may also be given, with care, to the obese individual who is too fat to exercise, in order to reduce his weight to a point where he may exercise. Because of its diuretic action and its effect in checking the progress of arteriosclerosis and its destructive action on effete products, it ought to be of peculiar value in cases of interstitial nephritis in which the patients are too fat. I have had under my care, for some time, two such men, who have been kept in fairly good condition by this treatment.

It is well to begin with small doses of a fresh preparation of the dried gland, one half to one grain three times a day, and gradually increase it, being watchful for the first signs of intolerance. The diet must contain an increased quantity of proteids, in order to save the tissue proteid, and a decreased quantity of carbohydrates, to prevent glycosuria. While exercise may be dispensed with (the catabolism produced by the gland taking its place), it is valuable, in that it trains the patient to this important particular. It is necessary, of course, that the patient be under constant observation; he must not be allowed to use the remedy without advice. If, during its administration, the pulse rise above 100 and the patient complain of breathlessness and weakness, it should be stopped at once and small doses of arsenic given until the condition is relieved. It may then be started again at a smaller dose. When the treatment is stopped, the patient may relapse into his former condition if, at the same time, he relax in his diet and exercise; but this same result obtains in any other cure. Most of the cases will require periodically recurring treatments, just as is the case in myxedema and cretinism.

In conclusion, I would say that while this remedy must be put in the dangerous class, I can quote Sajous, who has said of thyroid in another relation, "There is no agent at our disposal whose effects can be controlled more accurately, if watched, and fresh preparations used."

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REPORT OF A CASE.

BY A MEMBER FROM TOWANDA.

Mr. G. S., aged forty-seven; laborer, was brought into my office by his employer on Monday, August 19, 1912, giving history of having had an accidental fall on broken window glass while on an excursion eight days previously and having been attended by another physician. On examination there was found on the crest of the left buttock an irregular, ragged laceration which showed a great deal of inflammation and induration, with little or no tendency toward healing. The parts were immediately cleansed antiseptically and a small probe introduced. At about one and one half inches from the skin I obtained decided roughening and grating and immediately introduced thumb forceps to see if a foreign body could be removed, but was entirely unsuccessful. The patient was immediately placed on the operating table and a four per cent. solution of cocain injected in and about the laceration and then a grooved director introduced and a counter incision made with a sharp bistoury. After considerable hemorrhage the edge of what looked to be some portion of glass which had become almost entirely encysted was seen. With the aid of a clamp, which I was able to get on the foreign body, I was able to remove, after considerable manipulation, an irregular piece of heavy, double-thick window glass which measured two and one half inches in its longest diameter and a little over one inch at its widest portion.

This specimen has been saved and the case reported simply to show that in conditions of this kind one can not be too careful nor too thorough in making an examination for such conditions, as one never knows what may be concealed in the soft parts, deep in, beneath the skin.

THE *CHICAGO AMERICAN* ON DEPARTMENT OF HEALTH.

This newspaper has advocated and does advocate the establishment of a public department of health under the management of the national government.

The government and the people of the United States, spending millions to tell farmers how to care for young pigs, horses, chickens and geese, should spend some money telling mothers and fathers how to care for their children—and, if necessary, compelling proper care of those that need care.

This wise measure has been opposed by many that do not understand it, and by many others that have good reasons for fearing science and intelligent action.

Some of those that hate the idea of a department of health are well-meaning dreamers who amuse themselves by saying that there is no disease—until disease comes. Then they die or send for a doctor.

Others make money by exploiting the diseases, terrors and sorrows of humanity and fear the spread of knowledge. . . . . .

The government does not compel the farmer to treat his hog or cow or his sheep if the farmer does not want to. The farmer is allowed to let the animal die. But he is not allowed to let his animals endanger the lives of the animals of his neighbors. He isn't allowed to let his own conceit or foolish notions endanger the prosperity or health of others.

Similarly, a department of health devoted to the interest of human beings would not compel the adult man or woman to adopt any school of treatment. But that department would do in a national way what the city and state departments of health do now. It would not permit the crack-brained theorist denying the existence of disease, or the careless, indifferent idiot, to endanger the lives of others.

The health department would say to the citizen: "If it is your pleasure to die of consumption you may do so. If you wish to die of smallpox you may do so; that is your business. But you shall not spread consumption among others if we can prevent it, and you shall not spread the smallpox." A department of health would give advice, it would prevent the spreading of disease, and no sane person could object.

. . . .

A national bureau of health would be chiefly advisory, answering questions, spreading information, preventing the spread of contagious diseases. And once established, not even the most crack-brained dreamer or the most selfish exploiter of disease would really advocate discontinuing it.—Editorial, *Chicago American*, July 23, 1912.

TINCTURE OF IODIN THE BEST SURGICAL DISINFECTANT.

Woodbury has used the U. S. P. tincture on the tonsils for acute and chronic tonsillitis; in the parturient uterus and on extensive lacerations of the perineum; in the cavity following the evacuation of an amebic liver abscess, on the intestine, the ovary, the bladder and stomach; in the gall-bladder knee-joint, fistula-in-ano and tuberculous osteitis; on compound comminuted fractures from crushing and gunshot wounds, on depressed compound fractures of the skull and spine, on amputations, on corneal ulcers, and in various ophthalmic operations; and on his own hands as a disinfectant before operating. A solution of one teaspoonful of the tincture to a quart of normal salt solution made with pure sodium chlorid has been used as a wet dressing to suppurating wounds, burns and gangrene from frost bite; as a bladder irrigation in acute cystitis, as a vaginal douche, a gastric lavage, a urethral injection, an injection into the spinal canal in a case of epidemic cerebrospinal meningitis, a nasal spray, a gargle, a collyrium, and as a cleansing solution for flushing out the abdominal cavity after suppuration, and for washing out tuberculous bone sinuses. It makes a good rinsing solution for the surgeon's hands during operations.

Woodbury says he has yet to see his first case of iodism from the use of the drug, although on one occasion a nervous patient with a duodenal ulcer was receiving gastric lavage and retained a quart of this solution, representing a teaspoonful of the tincture or 4 c.c., the maximum safe dose according to J. V. Shoemaker being 0.3 c.c., and failed to feel any symptoms save a sense of fullness. As regards the erythema and dermatitis, it is interesting to note that a case of acute catarrhal eczema of face and scalp, due to Mrs. Potter's walnut juice hair dye, yielded to the use of the iodin ointment reduced one-third strength by petrolatum.—*Jour. A. M. A.*, Abstract of paper by F. T. Woodbury, Fort Screven, Ga., in *N. Y. Med. Jour.*, July 20, 1912.

DOCTOR'S AND LAWYER'S FEES.

In a conversation some time ago a prominent lawyer remarked to a physician of repute that the estate of a well-known "captain of industry," amounting to some forty millions, would bring the lawyers about a million dollars as fees. The doctor asked the lawyer:

"Suppose the man were dying, but there being a chance of saving his life by a difficult operation, a surgeon should operate and save his life, would that surgeon be justified in sending in a bill for $100,000?"

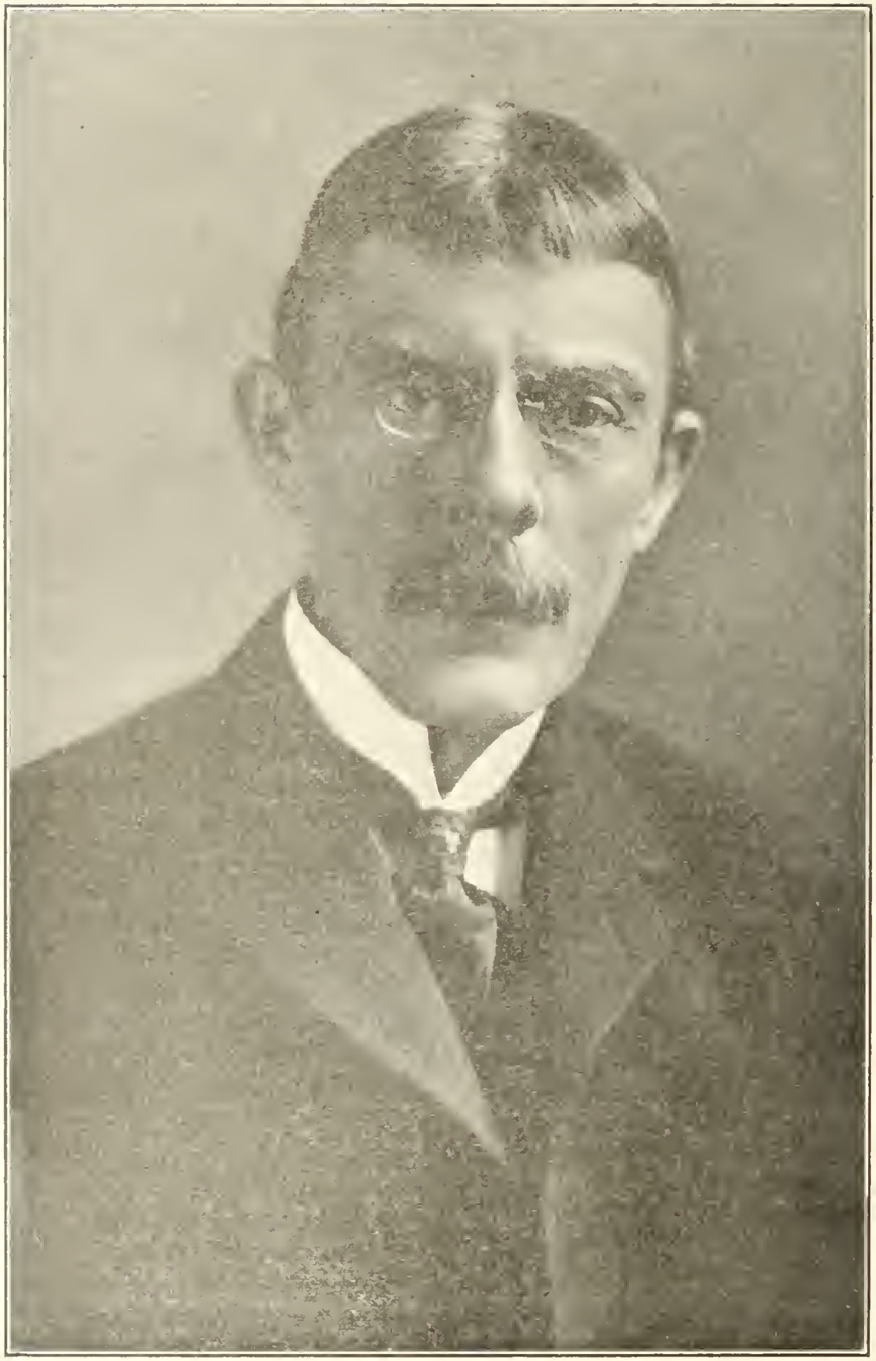
The immediate answer was: "Certainly not."

"Well," asked the doctor, "how is it that the lawyers can charge such large fees?"

"Because," replied the advocate, "a lawyer's fees are fixed by the courts."

And the celebrated physician, whose office fee of ten dollars is often grudgingly paid, remarked:

"You lawyers have solved the problem of self-preservation, while we are spending our time in the preservation of others."—*Journal of the Medical Society of New Jersey.*



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Athens, October, 1912.

JAMES TYSON, M.D., LL.D. OUR RETIRING PRESIDENT.

Our retiring president was born in Philadelphia. His parents were members of the Society of Friends. Dr. Tyson is still an honored member of Race Street meeting, Philadelphia, and is constantly called in its councils.

He graduated with the degree of A. B. from Haverford College in 1860, immediately entering the medical department of the University of Pennsylvania. He graduated with the degree of M. D. from that institution in 1863.

During his studentship at Pennsylvania, the young undergraduate, scarcely more than a boy, served as medical cadet in the military hospitals in Philadelphia, returning to his classes and graduating as M. D. after this experience. He served in the military hospitals after his graduation at Gettysburg, during and after the battle, and at Winchester, Virginia. While on duty at the latter place, he was elected intern to the Pennsylvania Hospital, where he obtained much practical knowledge. During this time he became closely associated with young teachers who have left their impress upon medicine, Keen, H. C. Wood, William Pepper and others. He worked shoulder to shoulder with all these men until the retirement of Wood and the untimely death of Pepper.

Immediately after finishing his internship at Pennsylvania, he became connected with Philadelphia Hospital and with the teaching staff of the Medical School of the University of Pennsylvania. He was early interested in research and taught the use of the microscope to the students for many years, both as quiz master and as instructor in microscopy. He then taught physiology, and in 1876 was elected to the chair of pathology and morbid anatomy. He taught pathology until he was elected to succeed Sir William Osler as professor of clinical medicine in 1889. In 1899 he was chosen to fill the chair of medicine made vacant by the death of his life long friend, William Pepper. He held this chair until he resigned in 1910.

It will be seen that, during Dr. Tyson's entire professional career, he has been connected with the teaching staff of the University, as instructor, clinical professor, and professor. More than this he was the executive head of the medical school for thirteen years, being the dean from 1876 to 1889. The term of Dr. Tyson's deanship marks the inception and much of the realization of advancing standards of medical education. In the beginning of his term as dean, the specified course of study was two years of seven months each of lectures;

there were very few practical courses and no entrance requirements. When he resigned as professor the term covered four years of eight and a half months each, all these months being filled to overflowing with practical and laboratory work, and the entrance requirements were of such high standard that the classes were showing, in the reduction of numbers, the effect of rigid requirements of course and entrance. Advanced standards of medical education owe much more than some remember, to the conscientious, thoughtful, hard work of Professor James Tyson.

During his teaching years, our retiring president has instructed more students in medicine than any living teacher, and probably more than one who has ever lived. These loyal students showed their love for the man and respect for his teaching in his unanimous election as president of our society at Harrisburg in 1911.

As adjuncts to his teaching, indeed the source from which he gained his great practical knowledge of medicine, which he imparted to his students, he has been a worker in our hospitals, as intern, as assistant and as chief. He was for years pathologist and physician to Blockley (Philadelphia General Hospital) and physician to University Hospital and to Pennsylvania Hospital, three of the largest hospitals in our midst. Here he comforted and helped the suffering, and in thus helping taught his students the greatness of medical practice.

The position of teacher seems to be but one of the many parts of this man's busy life. He has been, and still is, a constant and forceful writer upon medical subjects, his titles numbering many and covering the entire range of medical subjects. Never a year has passed without some work from the pen of this student and master of medicine. Among the most noteworthy of his works are the books upon the practice of medicine, and upon Bright's disease and diabetes, familiar to all medical men. This busy life has brought our president deserved honor.

He has held the positions of president of the Association of American Physicians, of the College of Physicians of Philadelphia, of the Philadelphia Pathological Society, of the Philadelphia County Medical Society, and of the Medical Society of the State of Pennsylvania. Numberless are the committees on which he has served as chairman and valuable member.

During Dr. Tyson's term as president of the College of Physicians, this ancient and honorable society perfected the great task of removing its home and library to its new building on Twenty-second Street, two years of hard work for its president.

His services to humanity have not gone unrecognized by the two institutions to which he owes allegiance. Haverford bestowed upon him the degree of LL.D. in 1908, and Pennsylvania gave him the same degree in 1911.

And finally he has been an ever busy practitioner of medicine and a much-sought consultant. Most hamlets in this state and many beyond its borders have seen Dr. Tyson in the rôle of counselor in the sick room where the urgency of the case demanded help to the attending physician. Dr. Tyson always gave help in an inimitable way, and this good work still continues.

When the writer comes to speak of the character of the man, he hesitates for fear the praise which is due may seem fulsome, but no praise can be too great for the character of this lovable man.

One of the characteristics of this physician, all too seldom practiced by others, is his sterling honesty. In a conversation at the Scranton Session, a well-known practitioner of Norristown said, "I always feel perfectly safe in sending a patient to Dr. Tyson. I know he will give excellent advice, and he never appropriates my patients."

This is not faint praise from a man living so near Dr. Tyson's active personal practice. Indeed, our president's honesty shows in his face and is shown in his every action. It is one of his traits all acknowledge. He gives of his best, fearlessly and freely.

His kindly manner in the sick room and his personal treatment of the patient mark every consultation. I have heard time and again the expression from suffering patients and their families, "Isn't he kind and thoughtful." Dr. Tyson never left a sick room without having given the patient comfort, if the case was without hope of recovery; and much encouragement if there was a chance of betterment. Of his skill and knowledge it ill befits the writer to speak. They are assured by his education, his experience, and his works.

Greatly have the physicians of Pennsylvania honored themselves by bestowing their best gift upon James Tyson. F.

THE MEDICAL PAPERS AT SCRANTON.

Recent sessions of our state medical society have been marked by more clearly defined attention on the part of the members to the business and scientific work of the society. The last session was no exception to this rule. The reduction in the number of entertainments and purely social functions has done much, no doubt, to encourage the members to attend the section meetings.

In the Section on Medicine, the opening symposium on diseases of the myocardium and the mechanism of heart beat was one of the best and most interesting the writer ever attended. The first few papers were marked by a clearly defined, but up-to-date, statement of the modern theories of cardiac action. The old or neurogenic theory was spoken of, but the newer or myogenic theory was described at length and the mechanism of the heart beat made clearer. Instruments of precision for the studying of the heart and the results of their work were described and interesting charts were exhibited, showing some phases of the heart's action which have been recently discovered. Papers of this sort are always of interest to those desirous of thoroughly understanding the newer theories of physiology, and the knowledge acquired from them is not lacking in importance to the general practitioner, though only too frequently the general practitioner does not care to listen to them nor to take the time to understand the latest theories.

These papers, however, were followed by papers of very practical importance on the use of digitalis and other drugs that are frequently prescribed for various forms of cardiac diseases. On the whole, it may be said that those who attended this meeting certainly had opportunities of gaining much benefit, both in theory and practice. The discussion of these papers was also active and helpful; although it is not likely that members of the profession ever will be of one opinion with regard to the action and proper prescribing of digitalis, yet discussions of this sort tend to do much toward helping each of us in our knowledge of the action and proper prescribing of this and other drugs.

The second symposium, affections capable of producing acute epigastric pains, was not only an interesting one, but helpful in bringing out many points with regard to the different forms of disease that may cause pain in this region. Such discussions always help in increasing the practitioner's knowledge of differential diagnosis. While it is true that many patients suffering with pain of this sort require the treatment of a surgeon yet it is well that discussions of this kind should be held in the Section on Medicine in order that all phases of the subject may be brought before the profession.

The program of the Thursday afternoon General Meeting was marked by the reading of papers on various subjects of more or less general interest. The various papers on infant feeding gave, in a clear and concise way, much information. The caloric value of foods is by most of the profession too little understood and too little studied. The feeding of infants is so frequently a haphazard practice that too much attention can not be given to this subject by the general practitioner.

Both in the Section on Medicine and in the General Meeting various papers were read which brought out more and more clearly the microbic origin of various diseases heretofore but too little understood. Special mention may be made of rheumatic fever and the ordinary colds or rhinitis.

The symposium on the intrathoracic diseases was a most interesting one and the newer methods of treating empyema of the chest are of special interest to the general practitioner and should bring him more and more to see how cases of this kind should be early looked after and promptly treated.

The large number of papers at this meeting which were illustrated by stereopticon views was most marked. The use of moving pictures in the study of nervous diseases is a most interesting example of how much can be done in this line. It shows very clearly that this can be used as an adjunct in the instruction of medical students in a most advantageous way. It is to be hoped that more and more use is to be made of this method, not only for instruction, but also for bringing before our medical societies forms of diseases which will greatly help the general practitioner in making his diagnosis. E. M. G.

THE PROGRAM ON EYE, EAR, NOSE AND THROAT DISEASES.

The Section on Eye, Ear, Nose and Throat Diseases at the Scranton Session was well attended and marked by unusual interest and enthusiasm. Reference to the program will show a wealth of papers by men of the highest professional attainments. Nearly every paper listed was presented and of the men selected to open the discussions but few were absent. As is frequently the case, some of the best points were those brought out in the discussions. To discuss a scientific paper in a creditable manner is a fine art and it requires considerable courage for a man of limited experience to state his views in discussing a paper if they differ in a marked degree from those of the author, who perhaps is an authority in his line. For this reason it has occurred to the writer that it might prove advantageous if more of the men of lesser experience wrote the papers and the discussions were opened by the masters of the art. Perhaps the younger men hesitate about volunteering papers and the section officers naturally turn to the leaders when soliciting authors. Might not a question box be provided and a short period in future sessions be devoted to answering anonymous questions?

That the time was spent so advantageously and with so little friction was due in no small measure to the officers of the section, particularly the chairman, Dr. Reber, who showed himself an excellent parliamentarian and combined a smiling countenance with an iron will. T.

THE OPEN MEETING FOR WOMEN AT SCRANTON.

The attendance of three hundred women at the Open Meeting on Wednesday during the annual session and the interest manifested were very gratifying. To Dr. Edith Barton and her assistants in Scranton is due the credit for the large audience and the successful carrying out of many local details. The meeting was opened by prayer by Mrs. T. M. Furey after which Dr. Barton introduced Dr. Elizabeth Leiper Martin, chairman of the Committee for Public Health Education among Women, who presided.

Dr. Jane R. Baker's paper on "School Inspection and the Needs of Defective and Feeble-minded Children," based on her experience of thirty years' work among many classes of defectives as well as on her findings as school inspector of West Chester, and illustrated by charts, was worthy of a scientific audience. Dr. Alice Seabrook told of the work of the Psychological Clinic of the University of Pennsylvania and other agencies in Philadelphia for the proper treatment and in some cases the cure of these unfortunates. Dr. Sarah D. Wyckoff of Wilkes-Barre spoke on the prevention of the social evil, dwelling especially on its economic, political and sociologic causes. She urged the necessity of laws requiring health certificates before marriage. Dr. Martin, by request, spoke on how to teach children concerning the origin of life, the first essential being that the person, be it parent or teacher, have a certain knowledge of biological facts and the right attitude toward the subject, realizing its sacred relation to the race as well as to individuals. A number of copies of a list of wholesome and helpful books on this subject, prepared by Dr. Amelia A. Dranga, were distributed and gratefully received. Mrs. Charles Long, Wilkes-Barre, gave an interesting account of the Parent and Teacher's Association, showing how it can supplement and help the working out of school medical inspection and other details of the new school code. Dr. Persis Rosamond Straight spoke of the inauguration of a safe and sane Fourth of July in Bradford, showing what can be accomplished by women's organizations when the needs of the community are forcefully presented to them. Two songs by Miss Anna Salmon served to relieve the strain incident upon long attention to serious subjects and were much appreciated.

The talks given on Thursday by Dr. Thomas D. Davis to four hundred high school boys and by Dr. Elizabeth L. Martin to the same number of girls were apparently much appreciated by teachers and pupils. M.

THE SCRANTON SESSION.

The attendance at Scranton was 499 as compared with 647 at Harrisburg, 1020 at Pittsburgh, 1232 at Philadelphia, 450 at Cambridge Springs, 546 at Reading. Probably the rainy week had the most to do with the small attendance, though the Congress at Washington the same week took some of our members, and the fact that many of our members attended the meeting of the American Medical Association at Atlantic City in June and did not feel that they could afford to be away from their practice in September also tended to lessen the registration at Scranton. What the society lacked in numbers, however, was made up in quality, for it is generally conceded that the program as carried out has never been better.

The program of the Section on Surgery was fully equal to the other parts of the program, mention of which is elsewhere given. The writer was not able to listen to any of the surgical papers but the minutes show that the program as printed was carried out with the exception of papers by Drs. John B. Deaver and Daniel A. Webb. The comments regarding the surgical program were most complimentary.

The commercial exhibit, consisting of books, instruments, medicinal preparations and laboratory products, was both interesting and instructive, and probably of more value to the members in attendance than it was to the firms exhibiting, owing to the comparatively small attendance. Not a few members commented upon the value of this exhibit from both a commercial and scientific standpoint, especially to those living outside the larger cities.

The selection of Dr. L. H. Taylor of Wilkes-Barre for president was unanimous, no other member seeming to have been considered. The selection of Philadelphia as the next place of meeting assures a large attendance and an enthusiastic session for 1913. S.

HOW NOSTRUMS ARE PROMOTED.

In discussing Hayden's Viburnum Compound, which is said to contain American skullcap (*Scutellaria lateriflora*), crampbark (*Viburnum opulus*) and wild yam (*Dioscorea villosa*), and similar preparations advertised as useful in the treatment of female disorders, the *Journal of the American Medical Association* (Aug. 31. 1912, p. 735) says, "There are a number of drugs which have in some way obtained a reputation as being valuable in the treatment of diseases of women without their therapeutic claims ever having been proved. It is said that some were used by the aborigines for such affections and we find a considerable number of them combined in various nostrums (sometimes with therapeutically active drugs) and exploited for the cure of female disorders, under most extravagant and usually absurd claims."

Regarding the method of popularizing these "uterine tonics" or "uterine sedatives" whose most active constituent often is the alcohol which many contain, it is said: "A nostrum containing, let us say, extractives of some little-used or worthless drugs is put on the market and heavily advertised. Should it be advertised in a manner to make it sell, a host of imitations appear and the large pharmaceutical houses put out substitutes for it. The uncritical physician does the rest. He prescribes it indiscriminately in the class of cases for which it is advertised. Naturally, a certain proportion of the patients who take it recover, and the recoveries are credited to the nostrum. A vicious circle is thus established and the demand for the stuff increases. Its sale, and the sale of similar products, continues until the overwhelming experience of those who have prescribed it proves its uselessness. In the meantime the manufacturers have reaped a harvest at the expense both of the public and of the medical profession. And the manufacturers' excuse for putting such absurd 'specialties' on the market is that physicians prescribe them!" S.

Changes in Membership of County Societies

The following reports have been received since the September Journal was printed:—

Allegheny County: *Death*—Harry A. Roscoe (Medico-Chirurgical Coll., '03) in Pittsburgh, September 22, as the result of an automobile accident. *Resigned*—George B. Fundenburg. *Transfer*—William S. McCreight to Armstrong County Society.

Armstrong County: *New Member*—William S. McCreight, Elderton (by transfer from Allegheny Co.).

Berks County: *New Members*—M. Luther Huyett, Shillington; George F. Potteiger, Jonathan B. Potteiger, Hamburg; Morris H. Koch, Lyons.

Blair County: *Removal*—Ernest R. Myers from Hollidaysburg to Saskatoon, Saskatchewan, Canada.

Bucks County: *New Member*—Edwin L. Smith, Hatboro (Montgomery Co.). *No Longer a Member*—J. Seldon Sands.

Clearfield County: *New Member*—H. Albert Blair, Curwensville.

Crawford County: *Transfer*—Watson W. Little to Erie County Society.

Delaware County: *Death*—George Gleim (Univ. of Pennsylvania, '65) in Lansdowne, September 21, from uremic poisoning, aged 69.

Erie County: *New Members*—Watson W. Little, Waterford (by transfer from Crawford Co.); Malcolm J. McCallum, Claude W. Page, Erie (by transfer from McKean Co.).

Huntingdon County: *Removal*—Walter C. Arthur from Huntingdon to Ambridge (Beaver Co.).

Jefferson County: *Removals*—Ira D. Bowser from Rathmel to Reynoldsville; Charles L. Maine from Helvetia to Dubois (Clearfield Co.).

Lackawanna County: *Removals*—Stanley N. Rynkiewicz from Edwardsville to Kingston (Luzerne Co.); Daniel W. White from Carbondale to 530 Carey Ave., Wilkes-Barre (Luzerne Co.).

Lancaster County: *Removal*—John F. Hope from Ronk to 29 N. Fiftieth St., Philadelphia (Philadelphia Co.).

Luzerne County: *Removal*—John E. Scheifly from Edwardsville to Kingston.

Lycoming County: *New Member*—F. R. Adams, Watsontown. *No Longer Members*—Mahlon T. Milnor, Andrew J. Stokes (resigned).

Removal—Randall B. Hayes from Vilas to 1225 Allegheny St., Jersey Shore.

McKean County: *Transfers*—Malcolm J. McCallum, Claude W. Page, Erie, to Erie County Society.

Montgomery County: *New Member*—William B. Jameson, Jenkintown. *Removals*—John D. Graber from Royersford to Limerick; William W. Richardson from Norristown to Mercer (Mercer Co.). *No Longer a Member*—William S. Kuder (removed to California).

Northampton County: *New Members*—Edward L. Hoffman, Easton (by transfer from Northumberland Co.); Ambrose M. Keim, Bethlehem; Harry B. Carty, Freemansburg; Glenn George Klock, Easton.

Northumberland County: *Transfer*—Edward L. Hoffman to Northampton County Society.

Philadelphia County: *New Members*—Gustavus C. Bird, Florence C. Child, Frederick C. Chirinos, E. Sherman Clouting, Joseph Samuel Cohen, Linfred Lindale Cooper, Julia P. Harton, John W. Hunter, Willard H. Kinney, Edgar Montealegre, Louis T. deM. Sajous, Francis M. Schilling, Louis Spitz, William W. Stevens, George B. Tullidge, Philadelphia. *No Longer a Member*—Frederick K. Brown. *Removals*—Benjamin F. R. Clark from Phildaelphia to Palmerton (Carbon Co.); Maxwell Herman from Philadelphia to Moqui Indian Reservation, Kearns Canon, Arizona; Oscar H. Wilson from Philadelphia to Burn Brae, Clifton Heights (Delaware Co.).

Schuylkill County: *New Members*—Raymond A. Dengler, Gilberton; Edgar E. Shifferstein, Tamaqua.

Tioga County: *Removal*—Clarence C. Gentry from Antrim to Greenville, S. C.

Venango County: *New Members*—John R. Borland, Thomas A. Irwin, Franklin; William C. Tyler, Rouseville; Winnie K. Mount, Oil City.

Warren County: *New Member*—Joseph C. Dunn, Tionesta.

Washington County: *New Members*—O. T. McDonough, Washington; Victor P. Vieslet, Charleroi. *No Longer Members*—William G. Cotton; Harry S. Floyd, John K. Smith, George M. Speck, William T. Wood. *Removal*—Harry Stunkard from Avilla to Norfolk, Va.

Westmoreland County: *New Members*—Thomas Basil Herron, Greensburg; Hugh W. Love, Harrison City.

Present membership 5786. S.

STATE NEWS ITEMS.

BORN.

To **Dr. and Mrs. Archibald G. Thomson**, Philadelphia, September 11, a son.

MARRIED.

Dr. Russell H. Boggs, Pittsburgh, and Miss Etta Agnew Houck, in Bradford, July 22.

Dr. Gilbert C. McMaster and Miss Grace Velma Brown, both of Pittsburgh, recently.

Dr. Arthur I. Murphy, Pittsburgh, and Miss Gertrude Currie, Glencoe, Canada, October 2.

Dr. Cheney M. Stimson, and Miss Ellen D. Dresher, both of Philadelphia, September 9.

Dr. Emanuel J. Stout, Philadelphia, and Miss Laura M. Bauman, Mahanoy City, recently.

Dr. Louis D. Joseph, Bradford, and Miss Mirian Davis, Titusville, at Buffalo, N. Y., September 2.

Dr. Elmer E. Lenhardt, Minersville, and Miss Anna Louise Erricson, West Pittston, September 10.

Dr. Charles B. Schildecker, and Miss Edna May Wightman, both of Pittsburgh, at Corry, September 11.

Dr. John Howard Rahter, Harrisburg, and Miss Helen Mathewson, Dauphin, in Atlantic City, September 3.

Dr. John A. Kolmer, Philadelphia, and Miss Bessie Cecelia Herron, Freeland, in New York City, September 18.

Dr. Benjamin Franklin Bowers, Saint Benedict, and Miss Roberta Spangler, in Washington, D. C., August 14.

DIED.

Dr. William A. Garman (Univ. of Pennsylvania, '49) in Berlin, October 6, aged 83.

Dr. John S. Garman (Coll. of Phys. and Surg., Baltimore, '78) in Berlin, October 2.

Dr. Thomas D. Clegg (Hahnemann Med. Coll., Philadelphia, '89) in Philadelphia, June 26.

Dr. William Milliken (Jefferson Med. Coll., '95) in Birdsboro, July 27, from heart disease, aged 42.

Dr. Edmund F. Steckel (Jefferson Med. Coll., '62) in Allentown, September 18, from uremia, aged 71.

Dr. Tobias Campbell (Jefferson Med. Coll., '86) in Martinsburg, September 1, from cerebral hemorrhage, aged 55.

Dr. Josiah Wayne T. Miller (Univ. of Pennsylvania, '78) in Parkerford, August 6, from cerebral hemorrhage, aged 69.

ITEMS.

Dr. Oscar H. Allis, Philadelphia, has returned from an extended visit in Europe.

Dr. C. C. Cooner, Picture Rocks, is convalescing from a slight cerebral hemorrhage.

Dr. W. M. L. Coplin has resigned as medical director of the Jefferson Medical College Hospital.

Dr. Hobart A. Hare has been appointed a member of the Philadelphia Board of City Trusts.

Dr. Charles A. O'Reilly, Philadelphia, has returned from Vienna where he took a postgraduate course in laryngology.

Typhoid Fever at Allentown. Some thirty cases of typhoid fever with three deaths were reported in Allentown last month.

The Medico-Chirurgical College held its formal opening on the evening of September 23, and was addressed by Dr. Seneca Egbert, Dean.

The University of Pennsylvania opened the 147th session of the medical department, with an address of welcome by Provost Edgar Fahs Smith.

Dr. F. E. Ross, Erie, has completed an internship in the Children's Hospital, Boston, Mass., and will now limit his practice to pediatrics.

The Jefferson Medical College opened its 88th annual session, September 23, with an address of welcome by Dr. Albert R. Brubaker, professor of physiology.

Dr. John B. Roberts, Philadelphia, gave the Address in Surgery before the Michigan State Medical Society, and the same is printed in the journal of that society for September.

The Berks County Antituberculosis Society on its fourth annual collection day for the Neversink Mountain Tuberculosis Sanatorium, on September 19, received nearly $6000 for the institution.

Fine Hospital for Danville. Mrs. A. A. Geisinger will give $100,000 for a hospital building in Danville, which will incorporate all that is best in hospital construction. She also provides an endowment fund of $500,000.

Dr. Wilmer R. Batt, Harrisburg, was elected first vice-president of the American Public Health Association, held in Washington, D. C., September 18-20. The next meeting of the association will be held in Colorado Springs.

Catalogue of Medical and Surgical Works published in the United States, alphabetically arranged by authors and classified under subjects, is a neat little pamphlet just issued by W. B. Saunders Co., 925 Walnut St., Philadelphia.

Harrisburg's First School for Tubercular Children was opened September 16, with twelve pupils, who will receive both instruction and nourishing food. Private individuals provide for the transportation to and from school.

Dr. James Johnston, Bradford, who at Scranton was elected councilor for the eighth district, visited Towanda, Sayre, and Ithaca, N. Y., on his way home, and was one of the few who escaped injury in the wreck on the West Shore Road at Crittenden, October 3.

Dr. George E. Pfahler, Philadelphia, was elected first vice-president of the American Electrotherapeutic Association at its meeting held in Richmond, Va., September 3-5. Dr. F. H. Humphries, London, is the president, and the next meeting will be held in New York City.

International Congress of Hygiene and Demography. Many Pennsylvania physicians were interested in the recent Congress. Drs. Neff, Penrose, Dickson, Litchfield and Abbott were on the organization committee. Drs. Wilmer R. Batt and S. McC. Hamill read papers.

The State Pharmaceutical Examining Board announced, on September 26, that at the recent examinations seventy-seven applicants appeared; fifty-five for registration as pharmacists, of whom twenty-nine were successful, and twenty-two for assistants' certificates, of whom seventeen passed.

Certificate before Marriage. Rev. Charles George Bikle, pastor of St. Paul's Church (Lutheran), Williamsport, has publicly announced that he will not officiate at a wedding where the contracting parties do not furnish certificates of mental and physical health signed by a physician.

Changes at the Medico-Chirurgical College. Dr. Stillwell C. Burns becomes professor of operative surgery; Dr. Robert Boyer becomes demonstrator in anatomy; Dr. L. Napoleon Boston, professor of physical diagnosis; Dr. Herbert H. Boyer, demonstrator of histology and embryology; and Dr. John J. Gilbride, demonstrator of surgery.

Statistics on Epilepsy Wanted. The Commission on the Segregation, Care and Treatment of the Feeble-Minded and Epileptics desires to obtain information as to the relative prevalence of feeble-mindedness and epilepsy, and as to the total number of these defectives who are not receiving institutional care. Correspondents will please address Dr. Frank Woodbury, Secretary, 717 Bulletin Building, Philadelphia.

The Baby Saving Show, held in Philadelphia last spring, produced an impression which is being felt all over the country. At Cleveland, Ohio, there is to be one held, beginning October 7. The Philadelphia Committee on Child Hygiene, to whom were given all of the materials of the Baby Saving Show, are sending a large portion of this to Cleveland for the exhibition. Requests have been received from Augusta, Ga., and Los Angeles, Calif., for the loan of this exhibit.

Vital Statistics. The State Department of Health reports that there were 16,417 births reported for June and 7639 deaths for the same month. There were 768 deaths due to tuberculosis, more than four hundred from cancer, and 64 from typhoid fever. For the month of July the number of births was 18,852 and the number of deaths 9007. Some causes of death were as follows: intestinal complaints, under two years, 1368, over two years, 150; tuberculosis, 748; cancer, 441; nephritis, 450; pneumonia, 348.

Evans' Dental Institute. Ground was broken September 25, for the new building at Fortieth and Locust Streets, Philadelphia. Dr. Evans, a former Philadelphian, who practiced in Paris and left a large fortune, devised about a million dollars for the construction of a dental institute on the site of his old residence in Philadelphia. Through arrangements with the University of Pennsylvania, the institute will fall under the supervision of the University trustees and be used also as the home of the Dental School of the University of Pennsylvania. The building will cost about half a million, and will have the rest of the bequest as an endowment.

Smallpox broke out in Pittsburgh on August 3 and the death rate has been 25 per cent. The spread was so general that the City Council decided that Health Director E. R. Walter should stand trial, but as he himself has been sick with smallpox public sympathy has tended to vindicate him without trial. Elizabeth Martin, aged 9, died September 20, of blood poisoning following vaccination, one person out of more than twenty thousand dying as the result of vaccination to one out of every four coming down with smallpox in this epidemic. On September 12, Commissioner of Health Samuel G. Dixon ordered Dr. J. C. Hunt to take charge of health matters in Carbondale until smallpox should be fully under control and an active board of health appointed. It is said that the spread of smallpox at Carbondale was partly due to the failure to report chicken-pox and to differentiate between the two diseases. Differences of opinion between Mayor Murrin and the Select Council also complicated matters and made it necessary for the state authorities to assume charge.

German Central Committee of Physicians' Study Travels. Three hundred members and their wives were the guests of Philadelphia physicians and surgeons on September 20 and 21. The party was received at City Hall, by Mayor Blankenburg, immediately upon their arrival in town, after which they assembled about the Muhlenberg statue, on the south plaza; a wreath was placed upon the statue and an address made by Dr. Forne, one of the visitors. The rest of the afternoon was spent in sightseeing and in the evening a formal reception was given, at the Hotel Walton, under the direction of the Philadelphia County Medical Society. Saturday was spent in visiting places of interest in and about Philadelphia, terminating in a banquet on the Continental roof garden in the evening. The visitors spent Sunday in Atlantic City and then left for Washington to attend the annual convention of the International Society of Hygiene and Demography.

This society is composed of physicians, dentists and men from allied professions. It contains many of the notable men of Germany. They go to a different country every year where they divide themselves into groups and study the hospitals, hygienic conditions, medical schools, commerce and manufacturers of the cities visited. After their return, they compare notes and endeavor to get a comprehensive knowledge of the places visited. Among the visitors were the following distinguished men: Geh. Prof. Wilhelm His, Vienna, the president of the society; Dr. Albert Oliven, Berlin, the secretary; and Drs. Gaertner and Loeffler.

GENERAL NEWS ITEMS.

Dr. Giuseppe Patacci, the Pope's private physician, died October 1.

Dr. J. Riddle Goffe, New York, was elected president of the International Gynecological Congress at Berlin, September 9. The next congress will be held in the United States in 1915.

Dr. L. Duncan Buckley will give a fourteenth series of clinical lectures on Diseases of the Skin, at the New York Skin and Cancer Hospital, from October 30 to December 18. The course will be free to medical men.

Dr. Alexis Carrel of the Rockefeller Institute, New York, has been awarded the Nobel prize valued at $39,000, in recognition of his achievements in the suture of blood vessels and the transplantation of organs. Dr. Carrel came to America in 1905 from the University of Lyon, France.

New and Nonofficial Remedies. Since publication of New and Nonofficial Remedies, 1912, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Nonofficial Remedies": Neosalvarsan (Victor Koechl and Co.); bismuth betanaphtholate (Merck and Co.); staphylo-strepto-bacterin mixed, antiplague bacterin (H. K. Mulford Co.); Slee's glycerinated vaccine virus (Abbott Alkaloidal Co.); Detre differential diagnostic test, tuberculin O. T. (Dilution) Von Pirquet's reaction, diphtheria antitoxin (Cutter Laboratory).

Neosalvarsan is a mixture of sodium 3-diamino-4-dihydroxy-l-arsenobenzene-methanal-sulphoxylate, $NH_2.OH.C_6H_3.As:As.C_6H_3.OH.NH\ (CH_2O)OSNa$, with inert inorganic salts. The arsenic content of three parts of neosalvarsan is approximately equal to two parts of salvarsan. Neosalvarsan is supplied in sealed tubes containing, respectively, 0.15 gm. (2 3-10 grains), 0.3 gm. (4 6-10 grains), 0.45 gm. (6 9-10 grains), 0.60 gm. (9 3-10 grains), 0.75 gm. (11 6-10 grains), 0.9 gm. (13 9-10 grains). It is readily soluble in water, forming solutions which are neutral to litmus and very unstable. The action and uses are the same as those of salvarsan. The average single dose for man is 0.75 gm. (12 grains). It may be administered by intramuscular or, preferably, by intravenous injection. For intravenous injection 25 c.c. freshly distilled water for each 0.15 gm is to be used. For intramuscular injection 3 c.c. of water should be used for each 0.15 gm. of neosalvarsan, this yielding an approximately isotonic solution. Victor Koechl and Co., New York. Saloquinine, the salicylic ester of quinin, is described in New and Nonofficial Remedies, 1912. The product as sold by Merck and Co., New York, has also been admitted to N.N.R. Articles accepted for N.N.R. Appendix: Mentholiodol is a mixture of iodol, 99 parts and menthol, 1 part. Kalle and Co., New York.—*Jour, A. M. A.*, Sept. 14, 1912, p. 879.

COMMUNICATIONS.

WORK OF THE PENNSYLVANIA COLLEGES.

To the Editor: In order that your readers may compare the work done by the old and new boards and also the work of Pennsylvania and other states, I give you below a table showing the percentage of failures of the different Pennsylvania Medical Schools in the last three years. The percentage of failures of the different schools in other states and the percentage of failures before our present board as compared with the percentage of failures before the old board would indicate that the two or three members of the old board who were accused of being too severe in their markings were not very far wrong.

PERCENTAGE OF FAILURES OF PENNSYLVANIA SCHOOLS BEFORE STATE BOARDS IN 1910, '11, '12.

	1910		1911		1912
	Penn.	Other States.	Penn.	Other States.	Penn.
Jefferson Med. Coll.	0	7 (32)	0	8 (32)	22
Medico-Chi.Coll.	12 1-2	18 (15)	1.3	10 (13)	25
Temple Univ.	7 1-2	none examined	0	16 (4)	36
Univ. of Penn.	2	5 (28)	1.33	10 (28)	13
Univ. of Pittsburgh	9	90 (3)	1.7	8 (3)	31
Woman's Med. Coll.	0	12 (13)	0	12 (11)	75
Hahnemann	12 1-2	16 (8)	3.25	30 (11)	17

The numbers in parentheses indicate the number of states in which the college had students examined.

W. D. HAMAKER.

USE OF VACCINES IN TREATMENT OF TYPHOID.

To the Editor: I will consider it a favor if you can find space to include in the next number of your journal the following letter that will be self-explanatory:—

About six years ago the writer began to use vaccines in the treatment of typhoid fever. Since that time he has thus treated more than one hundred patients and has obtained numerous articles upon the same subject written by physicians in various parts of the world. It seems possible, however, that some may have escaped notice. He also realizes that many of the profession may have treated some cases without reporting them. A paper upon the subject is now in the course of preparation. In this it is earnestly desired to incorporate reports from a large number of cases, good, bad, and otherwise. He accordingly makes the following request to the readers of this journal:—

Will any one who has used vaccines in the treatment of typhoid fever, whether but one case or more, kindly communicate to him that fact accompanied by name and address of the reporter. If the results have already been reported, a note of the journal in which they appeared will be sufficient. If they have not been reported, a short blank form will be sent to the physician to be filled out. Due credit will be given in the article to each person making a report. If any physician happens to know of other confreres who have any such cases, it will be appreciated if he send their names, as they may not happen to read this note. It is hoped that by this means a sufficient number of cases may be collected to somewhat definitely settle the now mooted question whether vaccines are or are not of benefit in typhoid therapy.

Reports of cases will be accepted at any time in the future but preferably by November or December of the present year.

Kindly communicate with Dr. W. H. Watters, Director of the Department of Pathology and Bacteriology, Evans Institute for Clinical Research, Boston, Mass.

REVIEW.

THE PRINCIPLES AND PRACTICE OF MEDICINE. Designed for the Use of Practitioners and Students of Medicine. By Sir William Osler, Bt., M.D., F.R.S., Fellow of the Royal College of Physicians, London; Regius Professor of Medicine, Oxford University; Honorary Professor of Medicine, Johns Hopkins University, Baltimore; Formerly Professor of the Institutes of Medicine, McGill University, Montreal, and Professor of Clinical Medicine in the University of Pennsylvania, Philadelphia. Eighth edition, largely rewritten and thoroughly revised, with the assistance of Thomas McCrae, M.D., Fellow of the Royal College of Physicians, London; Professor of Medicine, Jefferson Medical College, Philadelphia; Formerly Associate Professor of Medicine, Johns Hopkins University. 8vo, pp. xxiv., 1225. New York and London: D. Appleton and Company, 1912.

Few books have attained the popularity of Osler's Practice, and the reasons are not far to seek. The work is the outcome of a large, as well as diverse, and discriminating experience on the part of an earnest and industrious student, and the presentation is made in a direct and appealing manner by a master in the art of expression. Dr. Osler is an able clinician because he was first a physiologist and then a pathologist, and he is a teacher *par excellence* because of his appreciation of what the student needs and of his ability to impart the essentials of the subject under discussion. Twenty years have elapsed since the appearance of the first edition, which was at once accorded a hearty welcome, and subsequent editions have not been less cordially received. Marked changes are apparent between the first and the last in accordance with the notable progress and the new developments that have taken place in the interval. In the present edition the text is divided into twelve sections as follows: Specific Infectious Diseases, Diseases Due to Physical Agents, the Intoxications, Diseases of Metabolism, Diseases of the Digestive System, Diseases of the Respiratory System, Diseases of the Kidneys, Diseases of the Blood, Diseases of the Circulatory System, Diseases of the Ductless Glands, Diseases of the Nervous System, Diseases of the Locomotor System. In each of these are discussed at length and with a fullness proportionate to their importance the several subjects that fall under their respective subdivisions. The text includes twenty charts and nineteen figures, and there is an ample index. In welcoming this new and revised edition of a work that should be on the shelves of every medical library we can give no stronger praise than to say that Osler's Practice fully maintains the high reputation it has deservedly attained. E.

OFFICIAL TRANSACTIONS.

MINUTES OF THE PROCEEDINGS OF THE MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA, AT THE SIXTY-SECOND ANNUAL SESSION, HELD IN SCRANTON, SEPTEMBER 23, 24, 25 AND 26, 1912.

MINUTES OF THE HOUSE OF DELEGATES.

MONDAY EVENING, SEPTEMBER 23, 1912.

The House of Delegates of the Medical Society of the State of Pennsylvania was called to order in the Ball Room of Hotel Casey, Scranton, at 8:10 P.M., Monday, September 23, 1912, by the President, Dr. James Tyson, Philadelphia.

The President announced the following committees:—

Committee on Credentials,—Drs. L. C. Kennedy, Scranton; William W. Lazarus, Wilkes-Barre.

Reference Committee on Reports of Officers and Committees,—Drs. William H. Hartzell, Allentown, Thomas G. Simonton, Pittsburgh; L. M. Gates, Scranton.

Reference Committee on Scientific Business,—Drs. Edward B. Heckel, Pittsburgh; L. J. Hammond, Philadelphia; William P. Walker, South Bethlehem.

Reference Committee on New Business,—Drs. John B. Roberts, Philadelphia; Alexander G. Fell, Wilkes-Barre; John B. Lowman, Johnstown.

The roll was called and fifty-eight members responded. (See succeeding pages for list of delegates answering to roll call.)

The Committee on Credentials reported that there was no member present from York County, that the appointment by the president of that society of Dr. George E. Holtzapple, York, was said to have been made and in transit, and recommended that Dr. Holtzapple be seated. On motion of Dr. John Oenslager, Jr., Harrisburg, seconded by Dr. Wilmer Krusen, Philadelphia, Dr. Holtzapple was seated as a delegate from York County.

The Secretary presented a printed pamphlet containing reports of officers and committees, and on motion of Dr. J. M. Baldy, Philadelphia, seconded by Dr. L. J. Hammond, Philadelphia, the following was adopted:—

Resolved, That the reports of officers and committees as printed be received, and that the report of the Treasurer be referred to the trustees for audit; and the reports of the Secretary, the Assistant Secretary, the Councilors, the Committees on Public Policy and Legislation, on Archives, on Plan for Medical Defense, on Inebriate Hospital, on Medical Advertising, on Lodge Practice, on Promotion of Efficient Laws on Insanity, on Library, and on Plan for Uniform Regulation of Membership be referred to the Reference Committee on Reports of Officers and Committees; that the reports of Committees on Health and Public Instruction, on Defense of Medical Research, of Commissions on Trachoma, and on Cancer be referred to the Reference Committee on Scientific Business; and the reports of the Committees to Act with the Pennsylvania Dairy Association and the Commission on Tuberculosis be referred to the Reference Committee on New Business.

REPORT OF THE SECRETARY.

To the President and the House of Delegates:—

The membership of the sixty-three component county societies on September 16, 1912, was 5773, making a net gain since September 18, 1911, of 239 as against a net gain of 177 members for 1911, 165 for 1910, 202 for 1909, 161 for 1908. There have been 85 deaths during the year as against 77 for 1911, 66 for 1910; 26 removals from county or state as against 21 for 1911, 25 for 1910; 19 resignations as against 36 for 1911, 31 for 1910; and 98 suspensions as against 116 for 1911, 160 for 1910.

The following societies show net gains during the year: Philadelphia, 95; Allegheny, 46; Lackawanna, 17; Dauphin and Westmoreland, 12; Carbon and Northumberland, 9; Erie and Warren, 8; Lawrence and Schuylkill, 7; Fayette, Luzerne and York, 6; Blair, Mercer, Tioga and Venango, 5; Chester and Somerset, 4; Crawford and Huntingdon, 3; Lebanon and McKean, 2; Berks, Bradford, Clinton, Jefferson, Lycoming, Mifflin and Northampton, 1 each.

The following societies show a loss in membership: Indiana, 7; Center and Montgomery, 5; Clearfield, Lancaster and Monroe, 4; Armstrong and Clarion, 3; Bucks, Columbia, Franklin, Lehigh, Washington and Wyoming, 2; Bedford, Butler, Cumberland, Delaware, Elk, Greene, and Sullivan, 1 each.

It will be noted that fewer members have been suspended during the past year than in former years. There were fewer members rereported as suspended and a larger proportion than usual of those reported as suspended paid up after being notified that they had been reported as suspended. I am under the impression that the matter of the Medical Defense Fund has had something to do with this more favorable report, and this is really the first place where it appears that the matter of the Medical Defense Fund has had very much to do in securing or retaining members. The slowness with which some members pay their dues causes both the local and the state secretaries much extra work and annoyance. Certainly some of the delinquency arises from the fact that certain secretaries are lacking in tact, persistency or faithfulness in living up to the rules of their own society. Certain secretaries have reported members as suspended in August and even in September when the constitution of their society says definitely that such suspensions shall be reported on July 1. Members need to be taught promptly to pay their dues not only in the interest of the society but in the interest of the individual physicians. Some of the dead-beats who do not pay their doctor bills might have remained honest payers if their physicians had promptly and courteously followed up their accounts.

The Committee of the American Medical Association on Plan for Uniform Regulation of Membership has for three successive years recommended that the fiscal year of all county and state societies coincide with the calendar year and that the roll of membership be made up new each year from those who have paid their annual dues in advance. This plan at first seemed to your Secretary as being impossible to carry out, but the more it has been considered the more he is convinced that it has very much in its favor. It would do away with all suspensions of members, would facilitate the transference of members, and would definitely decide which county society should pay the *per capita* assessment. In furnishing Treasurer Wagoner, this month, with the number of members in each county society to form the basis for the *per capita* assessment for the coming year it was necessary to omit ten names undergoing transfer from one county society to another, for whom no society could be assessed.

Twelve applications for assistance from the Medical Defense Fund have been received during the year. One applicant was not a member of the society but at the request of his county society moral but not financial support has been given him. One applicant was not a member when he treated the patient at the time of the alleged malpractice. He is sued along with a member of the New York State Society, who is being defended by that society, and our society is giving moral but not financial assistance. Of the other ten cases, two have already been decided in court in favor of the defendants. None of the other cases have come to trial as yet, though five of them are in court. No judgment bas yet been awarded against any member defended by the Society during the six years the fund has been in force. The amount paid out during the year in defense of members has been $1149, and the Treasurer's account shows that we now have on hand $31[illegible]4.51, or $325.12 more than we had at the beginning of the year. Bills are paid up to date for all cases terminated and the expenses for the past year have been larger than we have reason to expect them to be for the coming year, judging from those now in court.

The Secretary wishes to express his appreciation of the efficient and systematic way in which the Assistant Secretary has undertaken his work. Acknowledgments are also due the county society secretaries for their uniform courtesy and, in most cases, promptness in the discharge of their duties.

Respectfully submitted,
C. L. STEVENS, Secretary.

REPORT OF ASSISTANT SECRETARY.

To the President and the House of Delegates:—

Having been elected Assistant Secretary in charge of the business arrangements for the Sixty-second Annual Session, I beg to submit the following preliminary report:—

Transportation. Correspondence with the Trunk Line Association reveals the fact that the best rate now obtainable is fare and three-fifths. This concession is granted under what is known as the commission plan. Upon investigation of this plan, as applied to the Scranton Session, it is found that our members will save very little on short hauls, and even on the long hauls the amount saved would not compensate for the great amount of trouble necessary for the individual member. The State Society must guarantee the sale of one hundred tickets before the privilege will be granted. Then each member would be required to pay full going fare. Upon arriving in Scranton the ticket must be deposited with the Secretary of the State Society, together with a fee of twenty-five cents. The ticket must then be signed by an officer of the Trunk Line Association who will be present at the Session only at a specified time. If the number using this transportation falls below one hundred, all the members purchasing same will be required to pay the full return fare and they will have had all their trouble for nothing.

Now that there is so much latitude connected with the use of the regular mileage book (any number can travel on one book and no restriction is placed on the sale of remaining mileage), I find that it is by far the best and, in the end, the cheapest method of travel to our meetings. Members are advised to look up the mileage from their home station to Scranton or Wilkes-Barre, and, when possible, two or three travel on the same book. In connection with the trip to Scranton, members should keep in mind that they can secure a trolley car, every hour, from Wilkes-Barre to Scranton.

Members who desire to take in the International Congress of Hygiene at Washington, D. C., Friday and Saturday, September 27 and 28, will find that a 1000-mile ticket will be sufficient from most points in Pennsylvania.

The secretaries of the local county societies will confer a great favor on their members by sending out notices containing information regarding trains, Pullman, etc.

Scranton as a Convention City. Scranton is a metropolitan center of over 300,000 population, consequently has an excellent shopping and business district and naturally offers sufficient amusement of a general nature. Unlike the first and second cities of the state, however, these attractions are not sufficient to detract from the scientific meetings or the social events provided by the State Society. In other words, we will be able to meet as a big family party and, at the same time, enjoy the advantages of a large city.

Hotel Accommodations. Scranton offers hotel accommodations second to none in the state. In fact I do not believe such good accommodations so near the center of session activities can be secured elsewhere. The Hotel Casey has been selected as headquarters and, as a list of the other hotels has been published in the JOURNAL for August, I will not mention them here.

Section Meeting Places in General. The meeting places of the various sections will be properly designated by display signs. On the door of each section a sign will state when the section is in session and when the next meeting will be held. It is hoped that by this simple measure meetings will not be unnecessarily disturbed. The officers of the sections will also be requested to order the chief usher not to open the door while a paper is being read.

General Meetings. The beautiful Assembly Room of Masonic Temple has been secured for all the General Meetings. The acoustics of this room are said to be very good, and as provision has been made for the accessories, such as ushers, blackboards, lanterns, etc., I feel sure the members in attendance will not only be comfortable but that the meetings will run smoothly. On account of the use of a moving-picture machine it has been necessary to secure the Auditorium at the Y. M. C. A. building for the General Meeting on Tuesday evening.

Surgical Section. The meetings of the Section on Surgery will also be held in the Assembly Room of Masonic Hall.

Section on Eye, Ear, Nose and Throat. The Committee Room at Masonic Temple has been secured for this section. This room is on the ground floor but will be entirely separated from the Assembly Room so that there will be no interference while the sections are in session.

Medical Section. The meetings of the Section on Medicine will be held in the Ball Room of the Hotel Casey. This room must be seen to be appreciated, and I am sure the members attending this section will be entirely comfortable in their quarters.

House of Delegates. The first meeting of the House of Delegates, Monday evening, September 23, will be held in the Ball Room of the Hotel Casey, and all subsequent meetings at the rooms of the Lackawanna County Medical Society.

Board of Trustees. The Board of Trustees will have ample quarters provided for their meetings at Hotel Casey.

Scientific Exhibit. The State Department of Health is preparing a large Scientific Exhibit which will be displayed at Exhibit Hall. This exhibit will for the most part be concerned with infant mortality.

Commercial Exhibit. We have been especially fortunate in securing an Exhibit Hall ideal in every particular. It is large, well lighted, and is on the street level. It is centrally located both as to the business and hotel center of Scranton as well as to all meeting places of the session. The Registration Bureau, Post-Office, Bureau of Information and Business Office of the session will be located in this hall. On account of the Annual Commercial Exhibit of the A. M. A. being held in the east last June, our Commercial Exhibit may not be as extensive as in some former years. What we lack in numbers, however, will be made up in the quality of the exhibits. All arrangements have been made to make the Exhibit Hall the business and day-time gathering place of the session, and to provide every possible comfort and convenience for the commercial men and the members in attendance.

Buttons and Ribbon Badges. In looking up this subject I am convinced that considerable money could be saved every year by adopting a uniform button and using the ribbon badge to designate the various sections. A button for guests has been provided and in this special item we can save money by adopting a uniform design instead of being under the necessity of securing a new one each year.

Social Sessions. The principal social event will be the President's Reception and Ball on Wednesday evening at the Hotel Casey. With the aid of the local county society, every effort will be made to make this event successful and enjoyable. On Tuesday evening at 9 P.M. a Promenade Concert will be held at the Exhibit Hall. The idea is to bring the members in personal contact with their commercial friends. There will be a good musical program by Scranton's best orchestra. The concert is placed at this hour so as not to interfere with the General Meeting on the same evening.

Our Guests. It is proposed to arrange one or two semi-scientific, medico-civic or educational meetings for the benefit of our women guests. It has always seemed to me that a few hours devoted to such work would prove a source of pleasure and profit. It is suggested that these meetings be entirely informal and completely under the charge of our guests. Dr. Elizabeth Martin of Pittsburgh has consented to start the movement and a meeting room will be provided for them on Wednesday and Thursday mornings. As a means of entertainment this may prove more profitable than those usually provided for our guests.

Scientific Program. I have had the pleasure of meeting with the Committee on Scientific Work and know how hard they have worked to give us a good program. It takes only a glance at the program to see how well they have succeeded. If the arrangements for the comfort and pleasure of the members come up to expectations, the Sixty-second Annual Session will prove to be one of the very best in the history of the Society.

This is the first year the Society will meet under the new arrangement. Many new points have come up and it has been difficult to find the proper solution to many of them. It has been my aim, however, to make arrangements not alone for this session, but, wherever possible, to have things arranged so that some use can be made of them in the future.

For the guidance of future assistant secretaries, I am going to open a suggestion box at the Commercial Exhibit and trust the members will take advantage of this opportunity to offer suggestions and make criticisms of the business management of the Department of Annual Meetings and Commercial Exhibits.

I wish to thank the Secretary for his many suggestions and for the help he has extended in my work. I also wish to thank Dr. W. R. Davies of Scranton for his assistance.

Respectfully submitted,

WILLIAM H. CAMERON, Assistant Secretary.

REPORT OF THE TREASURER.

To the President and the House of Delegates:—

I have the honor to submit the report of the financial operations of the Medical Society of the State of Pennsylvania for the fiscal year ending August 31, 1912.

RECEIPTS.

1911.	
Sept. 11, to cash, balance on hand	$2090.95
Sept. 30, to cash, dues from Huntingdon County	68.00
Sept. 30, to cash, dues from Dauphin County	244.00
Oct. 1, to cash, dues from Venango County	86.00
Oct. 1, to cash, dues from Butler County	92.00
Oct. 3, to cash, dues from Lancaster County	286.00
Oct. 3, to cash, dues from Adams County	36.00
Oct. 3, to cash, dues from Carbon County	40.00
Oct. 4, to cash, dues from Allegheny County	1548.00
Oct. 4, to cash, dues from Warren County	84.00
Oct. 6, to cash, dues from Westmoreland County	206.00
Oct. 7, to cash, dues from Wayne County	58.00
Oct. 13, to cash, dues from York County	164.00
Oct. 13, to cash, dues from Lehigh County	148.00
Oct. 17, to cash, dues from Philadelphia County	2616.00
Oct. 21, to cash, dues from Sullivan County	22.00
Oct. 27, to cash, dues from Montgomery County	192.00
Oct. 31, to cash, dues from Clarion County	76.00
Nov. 10, to cash, dues from Armstrong County	136.00
Nov. 21, to cash, dues from Chester County	112.00
Nov. 21, to cash, dues from Jefferson County	122.00
Dec. 5, to cash, dues from Northampton County	210.00
1912.	
Jan. 6, to cash, dues from Greene County	58.00
Jan. 6, to cash, dues from Wyoming County	38.00
Jan. 11, to cash, dues from Luzerne County	306.00
Jan. 15, to cash, dues from Lycoming County	194.00
Jan. 17, to cash, dues from Potter County	50.00
Feb. 2, to cash, dues from Center County	70.00
Feb. 10, to cash, net proceeds from Harrisburg Session	316.51
Feb. 16, to cash, dues from Perry County	36.00
Mar. 14, to cash, dues from Fayette County	194.00
Mar. 15, to cash, dues from Cambria County	180.00
Mar. 19, to cash, dues from McKean County	90.00
Arpil 10, to cash, dues from Erie County	160.00
April 10, to cash, dues from Mifflin County	58.00
April 11, to cash, dues from Bucks County	178.00
April 11, to cash, dues from Snyder County	28.00
April 12, to cash, dues from Clinton County	42.00
April 18, to cash, dues from Washington County	258.00
April 23, to cash, dues from Mercer County	120.00
May 13, to cash, dues from Berks County	174.00
May 14, to cash, dues from Bradford County	80.00
May 21, to cash, dues from Columbia County	84.00
June 4, to cash, dues from Beaver County	118.00
June 8, to cash, dues from Tioga County	60.00
June 15, to cash, dues from Somerset County	66.00
June 22, to cash, dues from Northumberland County	74.00
June 22, to cash, dues from Cumberland County	78.00
July 5, to cash, dues from Juniata County	22.00
July 23, to cash, dues from Union County	28.00
July 24, to cash, dues from Monroe County	64.00
July 25, to cash, dues from Blair County	142.00
July 25, to cash, dues from Franklin County	122.00
July 30, to cash, dues from Lebanon County	46.00
Aug. 2, to cash, dues from Lackawanna County	334.00
Aug. 5, to cash, dues from Montour County	36.00
Aug. 7, to cash, dues from Elk County	58.00
Aug. 8, to cash, dues from Lawrence County	102.00
Aug. 16, to cash, dues from Delaware County	154.00
Aug. 24, to cash, dues from Bedford County	50.00
Aug. 24, to cash, dues from Susquehanna County	50.00
Aug. 29, to cash, dues from Schuylkill County	154.00
Aug. 30, to cash, dues from Crawford County	92.00
Sept. 7, to cash, dues from Indiana County	112.00
Sept. 9, to cash, received from Medical Defense Fund in payment of Orders No. 20, 24, 25, 26, 39, 40, 56, 61, 73 and 75	1149.00
Sept. 9, to cash, received from Medical Benevolence Fund in payment of Orders Nos. 51 and 52	114.94
Total	$14,577.40

EXPENDITURES.

Order No.		
	1911.	
1.	Oct. 12, by cash, David Riesman, Com. on Defense of Medical Research	$ 9.86
2.	Oct. 12, by cash, *The Scranton Truth*, Commission on Cancer	15.00
3.	Oct. 12, by cash, Whitehead and Hoag Co., badges and buttons	59.58
4.	Oct. 12, by cash, Clarence P. Franklin, Commission on Trachoma	7.64
5.	Oct. 12, by cash, George D. Nutt, exp., Councilor, 6th District	7.35
6.	Oct. 12, by cash, Thomas D. Davis, exp., Councilor, 7th District	5.00
7.	Oct. 12, by cash, Samuel Wolfe, Com. on Independence Day Injuries	32.83
8.	Oct. 12, David H. Strickland, exp., Councilor, 8th District	22.42
9.	Oct. 12, by cash, W. G. Jordan, programs and reports	84.00
10.	Oct. 12, by cash, *The Athens Gazette*, programs and reports	44.10
11.	Oct. 13, by cash, C. L. Stevens, Journal for October	400.00
12.	Oct. 13, by cash, Agnace J. McCarthy, registration office	28.84
13.	Oct. 13, by cash, Elizabeth L. Brown, registration office	26.84
14.	Oct. 13, by cash, Hotel Columbus, Conference of Secretaries	75.00
15.	Oct. 13, by cash, Charles E. Fritcher, stenographer, House of Delegates	54.25
16.	Oct. 13, by cash, Fannie A. Houseknecht, reporting Trustees' and Secretaries' Conference	10.00
17.	Oct. 13, by cash, W. F. Wellcox, Commission on Tuberculosis	20.00
18.	Oct. 13, by cash, R. E. Van Norman, exp., Harrisburg Session	7.33
19.	Oct. 13, by cash, George B. Cock, stenographer, Harrisburg	100.00
20.	Nov. 3, by cash, John McGahren, Med. Defense Fund	300.00
21.	Nov. 3, by cash, W. H. Cameron, Scranton Session	50.00
22.	Nov. 3, C.L. Stevens, Journal for November	400.00
23.	Nov. 3, by cash, L. T. Hoyt, P. M., stamped envelopes	96.58
24.	Nov. 20, by cash, Rettew and Horning, Medical Defense	100.00
25.	Nov. 20, by cash, D. P. Rettew, Medical Defense	4.00
26.	Nov. 20, by cash, N.H. Larzelere, Medical Defense	50.00
27.	Dec. 2, by cash, John C Ingham, retainer fee	100.00
28.	Dec. 2, by cash, C. L. Stevens, Journal for December	400.00
29.	Dec. 2, by cash, C. L. Stevens, salary as Editor	100.00
30.	Dec. 2, by cash, C. L. Stevens, salary as Secretary	250.00
31.	Dec. 2, by cash, G. W. Wagoner, salary as Treasurer	50.00
32.	Dec. 2, by cash, W. G. Jordan, stationery, officers and committees	58.82
33.	Dec. 16, by cash, F. H. Gerlock and Co., Commission on Cancer	3.25
34.	Dec. 16, by cash, Mrs. M. C. Repp, reporting, Harrisburg	100.00
35.	Dec. 16, by cash, Lulu Gay, reporting, Harrisburg	100.00
	1912.	
36.	Jan. 11, by cash, G. W. Wagoner, Medical Defense and Benevolence Funds	1163.80
37.	Jan. 11, by cash, C. L. Stevens, Journal for January	400.00
38.	Jan. 11, by cash, Legal Publishing Co., Commission on Fractures	16.62
39.	Jan. 17, by cash, S. Harvey Thompson, Medical Defense	25.00
40.	Jan. 17, by cash, B. R. Jones, Medical Defense	25.00
41.	Feb. 9, by cash, C. L. Stevens, Journal for February	400.00
42.	March 1, by cash, W. G. Jordan, printing and stationery	58.32
43.	March 1, by cash, C. L. Stevens, salary as Editor	100.00

44. March 1, by cash, C. L. Stevens, salary as Secretary	225.00
45. March 1, by cash, G. W. Wagoner, salary as Treasurer	50.00
46. March 1, by cash, W. H. Cameron, salary as Asst. Secretary	125.00
47. March 1, by cash, C. L. Stevens, Journal for March	400.00
48. March 2, by cash, (Charged to Medical Benevolence Fund)	
49. March 3, by cash, G. W. Wagoner, investment, Medical Defense Fund	163.65
50. March 15, by cash, J. B. Maney, P.M., Commission on Cancer	50.00
51. April 1, by cash, W. S. Wray, Medical Benevolence Fund	4.20
52. April 1, by cash, Edward B. Heckel, Medical Benevolence Fund	110.74
53. April 1, by cash, C. L. Stevens, Journal for April	400.00
54. April 1, by cash, C. L. Stevens, Com. on Scientific Work	19.28
55. April 1, by cash, C. L. Stevens, postage and traveling expenses	56.69
56. April 16, by cash, Burleigh and Challener, Medical Defense Fund	25.00
57. April 23, by cash, American Surety Co. of N. Y., Asst. Secretary's bond	8.00
58. April 23, by cash, W. G. Jordan, committee stationery and postage	86.30
59. May 2, by cash, J.B. Maney, P.M., stamped envelopes	32.86
60. May 2, by cash, C. L. Stevens, Journal for May	400.00
61. May 28, by cash, Burleigh and Challener, Medical Defense	60.00
62. May 28, by cash, B. H. Ritter, exp., District Censor	4.20
63. May 28, by cash, C. L. Stevens, salary as Secretary	225.00
64. May 28, by cash, C. L. Stevens, salary as Editor	100.00
65. May 28, by cash, C. L. Stevens, Journal for June	400.00
66. May 28, by cash, G. W. Wagoner, salary as Treasurer	50.00
67. May 28, by cash, W. H. Cameron, salary as Asst. Secretary	62.50
68. May 29, by cash, Wendell Reber, Com. on Scientific Work	18.00
69. May 29, by cash, J. T. Rugh, Com. on Scientific Work	19.00
70. May 29, by cash, C. L. Stevens, Com. on Scientific Work	21.04
71. June 18, by cash, A.S. Harshberger, meeting of censors, 6th District	9.00
72. June 18, by cash, W. G. Jordan, cancer reprints	60.00
73. June 18, by cash, W. L. Estes, Med. Defense Fund	500.00
74. June 18, by cash, C. M. Harris, Com. on Scientific Work	3.08
75. July 3, by cash, C. H. Akens, Medical Defense Fund	60.00
76. July 3, by cash, W. L. Estes, Conference on Med. Education	64.00
77. July 3, by cash, W. L. Estes, exp., Councillor	6.70
78. July 3, by cash, James Thorington, Com. on Refracting Opticians	47.00
79. July 3, by cash, C. L. Stevens, Journal for July	400.00
80. July 26, by cash, Murrelle Printing Co., printing	7.25
81. July 26, by cash, J. B. Maney, P.M., stamped envelopes	11.00
82. July 26, by cash, David H. Strickland, traveling expenses	24.52
83. July 26, by cash, James D. Heard, Com. on Scientific Work	5.00
84. July 26, by cash, C. L. Stevens, Journal for August	400.00
85. Sept. 7, by cash, C. L. Stevens, Journal for Sept.	400.00
86. Sept. 7, by cash, G. W. Wagoner, salary as Treasurer	50.00
87. Sept. 7, by cash, C. L. Stevens, salary as Editor	100.00
88. Sept. 7, by cash, C. L. Stevens, salary as Secretary	225.00
89. Sept. 7, by cash, W. H. Cameron, salary as Asst. Secretary	62.50
90. Sept. 7, by cash, G. W. Wagoner, postage and stationery	1.96
91. Sept. 7, by cash, G. W. Wagoner, Medical Defense and Benevolence Funds	852.40
92. Sept. 7, by cash, (Charged to Med. Benevolence Fund)	
93. Sept. 7, by cash, (Charged to Med. Defense Fund)	
94. Sept. 7, by cash, A. P. Hull, traveling expenses	34.12
95. Sept. 7, by cash, C.L. Stevens, Secretary's expenses	96.42
96. Sept. 7, by cash, W. G. Jordan, stationery and printing	27.00
Total	$11,924.84

SUMMARY:

Receipts.

Cash on hand at beginning of year		$2090.95
Received from 62 societies, 5460 members	10,920.00	
Credit by overpayment 1910-11	22.00	
		$10,898.00
Received from overpayment by Elk County Society		8.00
Received from net proceeds Harrisburg Session		316.51
Received from Medical Defense Fund in payment of Orders issued from General Fund		1149.00
Received from Medical Benevolence Fund in payment of Orders issued from General Fund		114.94
Total		$14,577.40

Expenditures.

Journal		$4800.00
Salaries of Secretary, Assistant, Editor and Treasurer		1775.00
Medical Benevolence and Defense Funds for investment		2179.85
Expenses of Harrisburg Session		689.94
Expenses of committees and councilors		466.27
Printing, stationery, postage, traveling exp.		591.84
Expenses Scranton Session		50.00
Retainer fee		100.00
Assistant Secretary's Bond		8.00
On account of Medical Defense and Benevolence Funds		1263.94
		$11,924.84
Balance on hand		$2652.56
Amount due Medical Defense Fund 56 members	$14.00	
Amount due Medical Benevolence Fund	8.40	
		22.40
Balance on hand for general expenses		2630.16
Deposited with General Fund for Com. on Public Policy and Legislation		80.24
Total balance in bank		$2710.40

Medical Benevolence Fund.

Amount on hand at beginning of year	$4803.57	
Received from 73 members, 1910-11	10.95	
Received from 5404 members, 1911-12	810.60	
Received by error in amount charged per member for 3273 members	327.30	
Received interest on deposit to May 1, 1912	187.73	
		$ 6140.15
Withdrawn by Order No. 48 to correct error noted above on 3273 members and interest on amount	$ 328.25	
Withdrawn by Order No. 92 to cover Orders Nos. 51 and 52, drawn from the General Fund	114.94	
		$ 443.19
Balance on hand		$5696.96

Medical Defense Fund.

Amount on hand at beginning of year	$2819.39	
Received from 73 members 1910 11	7.30	
Received from 5404 members 1911-12 at .25	1351.00	

Received from Benevolence Fund, interest on amount deposited by error	.95	
Received interest on deposit to May 1, 1912	114.87	
		$ 4293.51
Withdrawn by Order No. 93 to cover Orders Nos. 20, 24, 25, 26, 39, 40, 56, 61, 73, 75, drawn from the General Fund		1149.00
Balance on hand		$3144.51

Committee on Public Policy and Legislation.

Amount received from W. L. Estes, Chairman (Deposited with General Fund but not included in balance on hand for general expenses.)	$ 80.24

County societies that have paid and the membership:—

Adams	18	Lancaster	143
Allegheny	774	Lawrence	55
Armstrong	68	Lebanon	23
Beaver	59	Lehigh	74
Bedford	25	Luzerne	153
Berks	87	Lycoming	97
Blair	71	McKean	45
Bradford	40	Mercer	60
Bucks	80	Mifflin	29
Butler	46	Monroe	32
Cambria	90	Montgomery	96
Carbon	20	Montour	18
Center	35	Northampton	105
Chester	56	Northumberland	37
Clarion	38	Perry	18
Clinton	21	Philadelphia	1308
Columbia	42	Potter	25
Crawford	46	Schuylkill	77
Cumberland	59	Snyder	17
Dauphin	122	Somerset	33
Delaware	77	Sullivan	11
Elk	29	Susquehanna	25
Erie	80	Tioga	30
Fayette	97	Union	14
Franklin	61	Venango	43
Greene	29	Warren	42
Huntingdon	34	Washington	129
Indiana	56	Wayne	29
Jefferson	61	Westmoreland	103
Juniata	11	Wyoming	19
Lackawanna	167	York	82
			5460
Delinquent: Clearfield			44
Total membership			5504

G. W. WAGONER, Treasurer.

REPORTS OF INDIVIDUAL COUNCILORS.

DR. WILLIAM T. SHARPLESS, WEST CHESTER, COUNCILOR FOR FIRST DISTRICT:

To the President and the House of Delegates:—

As Councilor for the First District, I wish respectfully to report that I have visited all of the county societies in the district in the past year. The Philadelphia County Society with its large membership of good men, many of whom are actively interested in the affairs of the society, does not need any comment in this report. I am informed, however, that there, as elsewhere, there are a considerable number of eligible physicians who are not members of the society and who should be sought out and induced to join.

In Berks County the society now has a permanent home and a good library, to which additions of modern medical books are made, so as to form a good working library. Montgomery County also has a library but it is not up to date and is not much used, though containing many valuable books. In the other three counties in this district, Schuylkill, Delaware and Chester, the matter of establishing a medical library is under discussion.

Philadelphia, Schuylkill, Berks and Chester Counties publish papers devoted to the interests of their respective county societies and of the profession in general.

In all of the counties there seems to be a good spirit among the members and a general interest in extending the membership and in promoting the interests of the societies. In general, I believe there is a good attendance at the meetings and the programs are well presented and are of real value.

DR. ISAAC C. GABLE, YORK, COUNCILOR FOR SECOND DISTRICT:

To the President and the House of Delegates:—

As Councilor for the Second District I have pleasure in reporting progress and improved conditions. The past year has been one of increasing activity on the part of the profession in this district. Increased membership in a number of societies has been accompanied by greater interest in society work, more professional zeal and unity, and a broader and more fraternal feeling of good will and professional advancement. Judging from the published reports in the county society bulletins, and from other reports received, excellent scientific programs have been presented at the regular meetings of the societies, and probably a larger number of scientific papers were read during the past year than during any previous one.

Most of the societies in the Second District publish monthly bulletins, devoted to the interest of the profession, which have a stimulating effect in fostering medical organization and the spirit of progress.

The Fifth Censorial District, composed of Adams, Cumberland, Franklin, Fulton, and York Counties, held its annual meeting at Mount Holly Springs on July 23, with a well-arranged program and a large attendance.

The Fourth Censorial District, composed of Dauphin, Lancaster, and Lebanon Counties, will hold its annual meeting at the Country Club on the river road, Harrisburg, September 12. A pleasant and profitable time is anticipated.

One public meeting, outlining the work of the Milk Commission, was held in the district during the year in conjunction with the Harrisburg Academy of Medicine.

The creation of this commission and the appointment of a milk, dairy, and meat inspector for Harrisburg, which will insure a more wholesome food supply, was due largely to the commendable work done by the Dauphin County Society. Certified milk, which is deserving of the confidence and support of every one interested in safe milk of high standard, is now distributed with the stamp of the Commission of the Harrisburg Academy of Medicine.

In concluding this, my seventh annual report, I should say the Second District is doing creditable work.

DR. WILLIAM L. ESTES, SOUTH BETHLEHEM, COUNCILOR FOR THIRD DISTRICT:

To the President and the House of Delegates:—

The last year the societies belonging to the Third District have shown increased interest in the meetings and have added members to their lists.

The Councilor has endeavored to render assistance to the societies which, on account of environment and perhaps some lapse of interest, had grown a little indifferent and whose membership was not so large as it should be. The majority of the societies included in the district are in most satisfactory condition, are banner organizations and are strongholds for the State Society.

Carbon and Wayne Counties still need some stimulation. A few active and interested members have come forward in these societies and no doubt will soon bring them up to the proper membership and efficiency.

The Councilor for the Sixth District was kind enough to make a visitation to Wayne County when the undersigned could not attend the meeting. Also he attended the trial of a suit in the stead of the proper Councilor when the latter was obliged to be absent on account of other pressing society business. Acknowledgments and hearty thanks are extended to this gentleman for his ready and efficient assistance.

The President and Secretary as well as the former Councilor for the district were kind enough to assist at a rallying meeting of the Carbon County Society. Their help and active coöperation resulted in a rousing meeting, which was followed by considerable addition to the membership.

There are two points which seem to the reporter to be of great importance to county societies: First, monthly meetings, *at least;* and second, a well-devised scientific program followed by some sort of social function. When meetings are further apart than one month the members are apt to lose interest in the meetings because they have time to forget them and permit other matters to intervene and hinder them. A good well-adapted program, one suited to the membership of the society, which will so interest the members that a full and general discussion shall result, proves very attractive. When a good dinner or lunch at an easily accessible place is added to this, members begin to think more of the meetings and are induced to attend much more regularly.

One suit has come to trial in the district and has been won by the defendant physician. An after-feature of this suit was an exorbitant charge of the defendant's lawyer. A fee quite double that of any other lawyer for similar service was demanded by this law firm. The trustees felt that the Society could not set a precedent nor afford to pay such a charge as this one was, so the Board was obliged only to assist in paying the defendant physician's bill of costs.

This experience leads the reporter to suggest the importance always, in the beginning of a suit, for a physician to ascertain the probable fee of his attorney, and never to allow the idea to get abroad that the State Medical Society is able and willing to back up a so-called malpractice suit of a member to an unlimited sum. This would be a premium to mendacious lawyers and oblige the Society to make an assessment far beyond the ability of the ordinary member to pay.

DR. GEORGE G. HARMAN, HUNTINGDON, COUNCILOR FOR FOURTH DISTRICT:

To the President and the House of Delegates:—

As Councilor of the Fourth District I have little to offer this year. The secretaries have all been very prompt in sending notices of their regular meetings, except Montour County; I am unable to say if this county has held any meetings during the year, but it generously entertained the Seventeenth Censorial District, September 5, at Danville. Unavoidable circumstances prevented my attending this meeting. An excellent program had been arranged and I have no doubt that it was interesting and profitable. This society holds its meetings quarterly, or rather makes an effort to do so, and the result is the members do not imbibe the spirit of enthusiasm and progressiveness.

To have an active society it is necessary to meet at least once a month to hold the interest. If meetings are held monthly, physicians become better acquainted with each other; it is the only remedy to cure the petty jealousies and prejudices that so often arise from a non-acquaintance.

I have not been able to visit all the societies in my district this year, for at the time the meetings were held it was impossible for me to leave my own practice for the whole day, which is necessary in all the counties except two. However, I have been trying to keep in touch with the work done in each society and I am well satisfied with the progress that has been made in the district and glad to report that all the societies are active. While there has not been as large an increase in membership as I desired to see, yet there are several of the societies that have every eligible physician in the county on their membership roll.

The young physicians recognize the helpfulness of an organization and unite with the local society without much persuasion. It is the young men to-day in the medical profession that are leading in scientific research and attainment. It is time for every physician to wake up to his advantages and opportunities and support the best organization in the state and nation, which ought to stand for everything that is good and great in American medicine.

As councilor and peacemaker in the district, I have not been called into service this year. There is one of the societies that has had a little interruption and friction but the aggressors seem to be determined to be their own council and it is hoped that further comment will be unnecessary. Only one case of a suit for alleged malpractice has been brought to my attention and referred to the benefit of the Defense Fund. After going over the case in detail with the attorney in charge, the matter rested and I have had no further report. This is one of the most important features of the state society and should receive special support from every member and should be an incentive for every physician to unite with his county society even if he is not interested in the literary department. We can not foretell the future nor predict the vicious intent of malicious persons in bringing suits of alleged malpractice, so it is well to be prepared for every emergency and I would suggest that the Medical Defense Fund be increased by advancing the *per capita* assessment to fifty cents instead of twenty-five, the present assessment for this object. The Medical Benevolence Fund is also a most salutary feature of our State Society and, as the names of the recipients are known only to the committee, I do not know if any demand was made on the fund from this district but if there are any persons in need of this benefit who are entitled to the same I shall be very glad to assist them in securing it.

In closing this report I desire to express my appreciation of the courtesies extended by the secretaries and of many kindnesses shown by members of the various societies visited and to assure them that my services as Councilor are always at their command, and to extend my best wishes for the continued success of the State Society.

DR. W. ALBERT NASON, ROARING SPRING, COUNCILOR FOR FIFTH DISTRICT:

To the President and the House of Delegates:—

As Councilor for the Fifth District I would report that with the close of my term I will have visited all county societies of the district three times, or once each year. Owing to poor railroad accommodations it has in some cases required a part of two days to go and return.

I wish to thank the various societies for their uniformly kind and courteous treatment. In some societies I was requested to furnish a paper and, in the rest, my few remarks were given to attentive listeners and my suggestions were accepted.

BOSTON MEDICAL
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While the duty of visiting societies is more or less of an exertion, there has been much pleasure derived.

On May 7 we attended the meeting of Westmoreland County at Greensburg. It was largely attended and the members were enthusiastic. The attention of the society was called to the desirableness of boosting the bill, then before Congress, for national medical legislation. Prompt action was taken during the meeting.

In the evening of May 7 we went on to Uniontown where was also held a splendid meeting with a representative of the Commission on Cancer as the drawing card. Fayette County Society also took prompt action to help along the medical bill. Those two societies are the banner ones of this district and each publishes live bulletins.

On May 9 we visited the Cambria County Society at Johnstown. The meeting was well attended and here, again, action was promptly taken on the medical bill.

On May 15 we went to Bellefonte to attend the Center County meeting. There was not a large attendance but those who were present were active and ready to do their part in helping along the suggestions of the Councilor.

On May 13, at Bedford, we had a very good meeting. There was a good attendance and much interest shown, particularly in carrying out our suggestions.

At Berlin, Somerset County, we attended a live meeting on July 15. There was a very good attendance for a county of scattered physicians Here, again, the Commission on Cancer was the main attraction. A fine banquet was also a very pleasant feature.

Blair County has been having some very good meetings and is doing good work. They have this year taken our suggestion and have started a bulletin, which is a decided help in creating interest.

In one of our societies there has been some delinquency in paying the state assessment but though they were a little slow it was adjusted. Just as soon as it was known to me, I wrote them and had a prompt reply that it had been paid. Medical men are often careless in paying their dues and thus have less right to find fault with those who leave doctors' bills unpaid so long.

Our final word is "be prompt" in all duties, especially in those pertaining to the profession.

DR. F. L. VAN SICKLE, OLYPHANT, COUNCILOR FOR SIXTH DISTRICT:

To the President and the House of Delegates:—

The Sixth District for the Medical Society of the State of Pennsylvania, comprising the counties of Susquehanna, Bradford, Tioga, Wyoming, Sullivan, Lycoming, Clinton and Union, is one of the largest, as to territory, in the division of the state and yet has few of the larger centers of population; this fact makes it rather difficult for the Councilor to be present at the meetings of the societies. It would have been my pleasure to meet with all of the societies in my district, but, owing to circumstances, I was unable to do so and my report this year will be of comparatively little interest.

On January 10 I met with the Wyoming County Society at Tunkhannock and enjoyed a pleasant and profitable evening. Most of the practitioners in Wyoming County are busy in rural practice and, while not able to meet frequently, are yet active, progressive practitioners of medicine. The society is in good condition and has a live, active secretary.

In the afternoon of March 12 I met with the Bradford County Society at Sayre; there was good attendance and evidence of progression on the part of members. It is to be regretted that in the district hospitals should cause such an unpleasant division of the medical fraternity, and that in Bradford and Lycoming Counties a condition exists which should be corrected, so far as the relationship of the profession is concerned, for the betterment of every one. Bradford County, the home of our worthy State Secretary, is doing good work. and has live, active members in its organization.

At the request of Dr. Estes, Councilor for the Third District, I visited Wayne County Society at Honesdale on May 16 and gave a talk along the lines of medical organization. The Wayne County physicians are alive to the interests of the profession and enjoy the privilege of having one of their active members as secretary.

The remaining counties in my district, while they have not been neglected in mind, have been in person, and it is my desire to visit every county in my district during the coming year.

DR. THOMAS D. DAVIS, PITTSBURGH, COUNCILOR FOR SEVENTH DISTRICT:

To the President and the House of Delegates:—

A severe illness and absence in California most of the winter kept me from visiting all the counties of my district, but I managed to get to Washington, Beaver and Allegheny. I could have attended the district meeting at New Castle and certainly would have done so but the card announcing the meeting reached me two days after the meeting was over. It had been directed to "Mr. T. G. Davis, Organizer, Pittsburgh, Pa."!

Considerable of my time has been given to the medical defense cases. No less than seven have been referred to me during the year. Two of these have been decided, permanently we hope, in favor of our members, the others have not yet been decided. All these cases seem to be pure blackmail, or spite work, and in my judgment will be easily won. Each of these cases emphasizes the great advantage of our defense fund to prevent persecution.

DR. DAVID H. STRICKLAND, ERIE, COUNCILOR FOR EIGHTH DISTRICT:

To the President and the House of Delegates:—

With pleasure I submit this, my annual report of the Eighth Councilor District, comprising Cameron, Crawford, Elk, Erie, McKean, Potter and Warren Counties.

Well-organized medical societies exist in all the counties except Cameron; this county is of small area, has but few medical men, too few in fact to maintain an organized society. Consequently most all the eligible men within the county are associated with adjoining county societies. The majority of them belong to the Elk County Society.

Crawford County has a well-organized society; meetings are held monthly in Meadville, the county seat. I attended their annual meeting held October 10, 1911, when a very interesting lecture was given by a man from Pittsburgh, on "Gynecological Diagnosis." The paper was freely discussed, and many questions were asked. The society is doing good work and is adding members from time to time.

Elk County Society is a live organization, holding monthly meetings in different sections of the county as follows: Ridgway, the county seat, Johnsonburg, St. Marys and occasionally at Emporium in Cameron County in order that members in that section of the district may have an opportunity to attend the meeting without being inconvenienced and without having to travel too long a distance. I was unable to attend their annual banquet, but from having attended many previous banquet meetings I am thoroughly satisfied that they had a good meeting, and I was the loser.

Erie County Society has a membership of ninety-two, a gain of eleven during the year, with good prospects of a material increase in the near future. Meetings are held monthly with an average attendance of thirty. Papers are read and discussed. A smoker with a light luncheon is held two or three times during the year, which seems to add materially to the social life of this society, and likewise brings the members more closely in touch with one another, increasing friendship and familiarity, thereby adding much to the harmony and good feeling which should exist in all organizations where good and efficient work is to be accomplished.

We have had several meetings during the year when papers were read or lectures given by outside men on subjects pertaining to social hygiene, tuberculosis, proper care of milk and other foods, and general sanitary improvement. The lecture on "Social Hygiene," with lantern slides, given by a man from Philadelphia was open to the general public. The house was crowded and many were unable to obtain admission; much interest was manifested throughout the program and we were satisfied a good work was accomplished.

A crusade against dirty and unsanitary milk has been carried on by our vigilant health officer, under the direction of the City Board of Health during the past year. Inspectors intercept the interurban cars on their way to the city, obtain samples for investigation as to cleanliness, temperature and bacteria. Since January 1, 1912, there have been 1555 quarts of milk dumped into the sewers as unfit for use. This action has caused a good deal of comment and feeling among the producers, but under these tactics recent analyses show great improvement in present supply. Examinations are to be continued from time to time until all the milk supplied is furnished as nearly pure as possible. Within the past ten days seven milk dealers have been arrested, convicted and fined for selling milk diluted with water, and cream too low in butter fat. So it would seem that it is necessary to be constantly on the watch for the would-be swindler. (Since writing this two milk producers, convicted twice of selling watered milk, have been denied the privilege of supplying milk in the city and advised to go out of business.)

Recently a series of lectures has been given by local medical men to the general public, specially to mothers, in the lecture room of one of our large coöperative stores, on the proper feeding and care of infants, care of milk, clothing, etc. Healthy and unhealthy infants, side by side, have been on exhibition in the windows of the store, together with samples of proper and improper food, thereby demonstrating the marked difference between the well-nourished and healthy child and the poorly fed and sickly infant. Our efforts in this direction have shown a greatly reduced mortality among the infants and a better condition generally has followed. There is a great field open for this work for the betterment of humanity and robbing the grim reaper of many of his unnecessary victims.

We hope this good work may not only be continued in this section, but be adopted in other outlying districts of the state where it has been thoughtlessly neglected or rarely carried out.

Within the past year a great deal of work has been consummated toward a tuberculosis hospital; the one important element standing in the way has been the matter of finance. Recently a man much interested in the uplift of humanity, both physically and morally, purchased a farm in the suburban part of the city and donated it for hospital purpose, so that in the near future we hope to have a well-equipped hospital for the care of the unfortunate tubercular subjects.

Our water supply has been greatly improved within the past year. The water commissioners have recently let a contract to the amount of $400,000 for the betterment of the water supply, and when finished we will have no fear of an epidemic of typhoid fever from that source.

Our medical library, housed, indexed and shelved by the librarian of the Public Library in the city, has a healthy growth. Three hundred dollars is set apart annually for the purchase of medical books of the latest thought and writing in medical science. At the present time 555 volumes including all the up-to-date journals are accessible to all medical men.

McKean County Society was organized in 1880. Monthly meetings are held in different sections of the county in order that the members in the outlying districts may be better enabled to be present and take part in the exercises. They have forty-seven members. Papers are read and occasionally a class-study exercise is held. During the past year they have been entertained by medical men from neighboring cities. Improvement in their society work is readily discernible, largely due, no doubt, to their efficient secretary.

Potter County Society was organized in 1898. It has a membership of twenty-five. Meetings are held quarterly. Several physicians from adjoining counties are members of this society, on account of convenience. I have been unable to visit this society, much to my regret, but from what I have been able to learn they are active in their work and well abreast of the times.

Warren County Society was organized in 1871; reorganized in 1881. It has a membership of fifty-one, a gain of seven members in the past year. Meetings are held monthly throughout the year, with an average of sixteen in attendance; all eligible men within the county are members. I was present at a meeting held August 20, 1912. A symposium on cancer occupied the attention of the society for the evening. The subject was freely discussed and many points of interest elucidated. The consensus of opinion regarding treatment was that early diagnosis, with radical removal by the surgeon, offers the best success with our present knowledge of the pathology of the disease. After the scientific program was concluded we partook of an excellent luncheon, which was served by the efficient secretary and his good lady.

In closing this my last annual report as Councilor of the Eighth District, I want to thank all officers and members of the different county societies in the district for the uniform courtesy extended to me during my stewardship.

DR. ALEM P. HULL, MONTGOMERY, COUNCILOR FOR NINTH DISTRICT:

To the President and the House of Delegates:—

I am not in a position to make a very extensive report of my district this year, as it takes almost three days to visit any one of the county societies, and I have been able to visit but three, Clarion, Jefferson and Venango.

I attended the March meeting of the Jefferson County Society in Dubois and made a short address on the "Necessity and Benefits of Medical Organization." There was not a large attendance but the members present showed interest and a spirit of enthusiasm in the work. From what I learned the society has a large part of the members of the profession enrolled as members and is having better attendance and doing better work each year. It publishes a bulletin which has helped to increase the interest and to keep the members more in touch with each other. The number of physicians in Jefferson County is sixty-five, but the number in the society is sixty-six, eight of whom are from Clearfield County, and three from other counties.

I attended the meeting of the Clarion County Society, held at East Brady on June 22. The attendance was only fair, although a large percentage (thirty-seven out of forty-one) of the physicians of the county are members of the society. The fact that they meet but once in three months is a handicap in keeping up interest and getting the members in the habit of attending.

The secretary of the Armstrong County Society writes me that they have had seventy-six physicians in the county during the year. One has died, two have removed, leaving seventy-three, all of whom belong to the society except one who is a contract physician for a mining company. The meetings have been well attended, the majority of the men responding to their part on the program. Goodfellowship prevails. A monthly bulletin has been issued during the year.

I did not attend a regular meeting of the Venango County Society but called on the president, Dr. C. C. Coulter of Oil City, and had some correspondence with the secretary, Dr. H. F. McDowell of Franklin. There seems to be more interest in the meetings than formerly. The society has purchased a clubhouse, between Oil City and Franklin, for a permanent home, which will add to the convenience of the members who hope for more largely attended meetings.

I have not been able to attend a meeting of the Butler County Society, but I understand the meetings during the year have been well attended and successful. In connection with the society there is the Physician's Club of Butler, which has taken up the program as authorized by the American Medical Association.

In none of the other societies visited has the postgraduate work been taken up, nor did it receive the enthusiasm that its importance demands, as it goes farther toward bringing the members in accord and unison than any other feature of society work.

I am on the program of the Indiana County

Society for the October meeting and hope then to visit Butler and Forest Counties, the latter of which has no society.

REPORT OF THE COMMITTEE ON PUBLIC POLICY AND LEGISLATION.

To the President and the House of Delegates:—

Your Committee on Public Policy and Legislation begs leave to submit the following as its report:—

Owing to the fact that no session of the State Legislature was held this year and that no work was assigned this committee at the last session of the House of Delegates, nothing of a definite character was accomplished since our appointment.

However, feeling that the Society still endorsed its position on the Owen Bill, as per its action of the meeting of 1910, the Senators from this state were addressed in the interest of the bill, having for its purpose the establishment of a national department of health, then pending before the United States Senate.

We would suggest that the Society should proceed cautiously with any contemplated legislation, rather assuming a defensive position in protecting the good work already accomplished, at least until such a time as any weakness in the present act is fully established by reports from the representatives of this Society on the Bureau of Medical Education and Licensure and from objections offered by those affected by the workings of the act.

We recommend that all proposed state legislation, having the endorsement and support of the Society and at the same time recognized as measures from the Society, whether it be general or special in character, be referred to the Committee on Public Policy and Legislation; thereby, we believe, can be accomplished the greatest amount of good to all the profession, with the least amount of friction and confusion.

Respectfully submitted,
FRANK G. HARTMAN, Chairman.
C. L. STEVENS.

REPORT OF THE COMMITTEE ON ARCHIVES.

To the President and the House of Delegates:—

The Society now requires the transactions previous to the year 1854 to complete its two sets of transactions, one of which is in the hands of the Secretary of the Society, and the other in the library of the Society on the shelves of the library of the University of Pennsylvania. If any one knows where volumes of the transactions for either 1848, 1849, 1850, 1851, 1852 or 1853 can be procured he will confer a favor by notifying the Secretary of the Society.

The committee can supply bound volumes of the transactions from 1854 to 1896 inclusive, and unbound copies of the PENNSYLVANIA MEDICAL JOURNAL from 1897 to 1912 inclusive. No charge other than transportation charges will be made for these when desired for medical libraries within the state or for other state societies.

The supply of some numbers of the JOURNAL in several years is now nearly exhausted and it is earnestly recommended that each county society secure as far as possible a complete set of the transactions of the society for future reference. Local secretaries, committees and others frequently call upon the Secretary of the Society for information contained in back numbers of the JOURNAL or transactions, and the county societies should procure a set before the supply is exhausted or destroyed by fire or otherwise.

All of which is respectfully submitted.

Committee,
HOWARD C. CARPENTER.
THOMAS B. HILL.
C. L. STEVENS.

REPORT OF COMMITTEE ON PLAN FOR MEDICAL DEFENSE.

To the President and the House of Delegates:—

Your Committee on the Plan for Medical Defense respectfully submits the following report:—

During the past Society year considerable time and study have been given to the plan for medical defense. Without going into detail, it may be said that the closing year has been the most successful and satisfactory in defending our members against suits threatened or entered for alleged malpractice. The number of such appeals to the State Society's fund increased rapidly during the year, indicating a marked confidence in the efficiency of its defense. The present plan is so eminently successful in defending members, so comparatively inexpensive, and so well administered by the trustees that the committee recommends for the present a continuance of the present plan of defense; but suggests that the trustees prepare for an increased assessment for the fund, beginning not later than September, 1913.

From the membership at large the committee asks a more intelligent coöperation with the trustees in applying for defense, when threatened with suit for alleged malpractice. Members when threatened with such suit should not delay in making application for assistance and should not engage an attorney prior to making application to the Society's officers. The committee of the council will consider the wishes and interests of the members in their selection of attorneys. The county medical society secretaries will furnish the required blanks. The committee would also remind the members that the interest in the fund should be mutual and that carelessness and neglect are indefensible.

WALTER F. DONALDSON, Chairman.
THOS. D. DAVIS.
JOHN B. ROBERTS.

REPORT OF THE COMMITTEE ON INEBRIATE HOSPITAL.

To the President and the House of Delegates:—

As the object of this committee is to endeavor to secure legislation which will create a state hospital for inebriates, but little has been done during the past year (in which there has been no meeting of the Legislature) except to talk over plans informally on a few occasions and to prepare ourselves to act at the coming session of the Legislature next winter.

The committee makes no recommendation to the Society as to whether it shall be continued or not; but if the Society desires to continue the committee it is ready to do the best it can to persuade the next Legislature to build a state hospital for inebriates, although it now fully recognizes this is uphill and somewhat discouraging work.

Very respectfully yours,
THEODORE DILLER, Chairman.
For the Committee.

REPORT OF THE COMMITTEE ON MEDICAL ADVERTISING.

To the President and the House of Delegates:—

Your Committee on Medical Advertising feels assured that the line of work committed to it is of great magnitude and of vital and far-reaching interest to both the medical profession and lay citizens of this Commonwealth, indeed of this great Republic.

The committee has necessarily been somewhat hampered in accomplishing satisfactory results, due to the fact that it has not been found feasible to have the members come together to give the consideration to the subject that its importance demands. By correspondence, however, with the individual members, we discovered that they were ardently interested in the work, and offered suggestions as to the methods and avenues through which we might operate. Acting on these suggestions, and with the conviction that, if the evils of medical advertising were to be overcome or in any appreciable degree lessened by this organization, it was necessary to have the active coöperation generally of the component county medical societies. The chairman of the committee, therefore, in June, mailed to each secretary a printed letter, calling attention to the aim and object of the committee, in part, as follows:—

"*Dear Doctor*: The Committee on Medical Advertising of the Medical Society of the State of Pennsylvania desires your aid and active cooperation in the work assigned the committee. We wish to direct your attention to the debasing, demoralizing, pernicious and deleterious effects of objectionable medical advertising. The willful misrepresentation as to the composition of so-called remedies, and absurdly false claims as to curative properties, at the same time heralding and exploiting these fake "cure-alls" for cancer, consumption, dyspepsia, "liver complaint," impurities of blood, rheumatism, loss of virility, etc., etc., leading many of their victims to financial impoverishment and pauperism and not infrequently developing a drug habit that enslaves for life.

"We courteously, yet earnestly, call upon you as an organization to take up this matter, examine critically the advertisements in your local papers and ascertain to what extent the evil prevails."

The secretaries of Philadelphia, Allegheny, Franklin, Armstrong, Juniata, Montgomery and Clearfield County societies evidenced their interest in the work of the committee by responding to its appeal and request and by expressing their approval and desire to aid, as far as possible, in suppressing the evils referred to. We appreciate the courtesy shown and the interest manifested.

Two important features present themselves for consideration. First, the organized medical profession of Pennsylvania should be united in the forward movement to cast aside, by her practice and potential influence, all patent medicines, including all proprietary medicines and cure-alls made to order for special diseases. We should also condemn the writing of certificates of commendation of special proprietary preparations, or even the recommendation of such remedies in the discussions in our meetings.

To aid in bringing about this desirable condition in our profession, we recommend that the departments of therapeutics and materia medica in our medical colleges give to the graduating classes special and definite instruction regarding the evils of prescribing and endorsing patent medicines or proprietary preparations.

The second feature relates to medical advertising in medical journals and in lay publications. In the *Journal of the American Medical Association* and our own state journal we have publications that are edited by members of the medical profession who have the honor and credit of the profession at heart—men who are conscientiously striving to exclude all advertisements that do not come within the ethics of our national organization; and while occasionally one may accidentally find a place in the advertising pages, we know it is not the desire of those in control that they shall continue to appear.

We, therefore, heartily commend the earnest efforts they are putting forth to lead the profession to a still higher standard of ethics, thus manifesting their interest in the physical and moral welfare of their readers. We, therefore, hope the Medical Society of the State of Pennsylvania will continue to uphold these journals in every effort in the direction of the elimination of advertisements that have the least shadow of doubt as to their right to a place therein. We advise that advertisement of any preparation to be prescribed in original packages, to which are affixed labels and literature, with indications of diseases for which the preparation is claimed to apply, or directions for self-medication, be excluded from all medical journals.

With medical journals generally pursuing the course indicated, supported by such lay periodicals as Collier's and a limited number of others, we may hope to see so-called respectable papers and magazines falling into line to elevate the character of their advertising pages by declining all misleading, objectionable and fraudulent advertisements.

In considering a course of action that may prove more forceful and potential in the accomplishment of more practical results along this line, we believe the component county medical societies should become more interested and take an aggressive attitude toward objectionable and demoralizing advertisements that are found in the local county, city and borough papers, which find their way into a large percentage of the homes in every community. With this object in view we recommend the following:—

Resolved, That each component county medical society be requested to appoint annually a committee of three members, whose duty it shall be to inspect the advertising columns of the publications of their county, and when objectionable advertisements are discovered let the committee or the society take such action as it shall deem advisable.

Resolved, That these committees be requested to report the results of their work to the Committee on Medical Advertising of the Medical Society of the State of Pennsylvania by the first day of August of each year.

In view of the importance of this work we believe the committee should be continued.

Respectfully submitted,
Luther B. Kline, Chairman.
J. A. C. Clarkson.
John J. Coffman.
Harry W. Whitcomb.
J. B. F. Wyant.

Report of the Committee on the Defense of Medical Research.

To the President and the House of Delegates:—

Your Committee on the Defense of Medical Research respectfully submits the following report:—

As the Pennsylvania Legislature did not meet during the past year it was decided by the committee that the latter's activities should be concentrated upon an attempt to awaken the profession of the state to two things: First, it should be shown the great peril in which medical research is placed through the increasing activity of the antivivisectionists. Second, it should be made sensible of the obligation resting upon each member to do his share toward counteracting the forces of fanaticism and ignorance in their endeavor to force through our governing bodies pernicious restrictive legislation.

It is the belief of the committee that the community at large could be powerfully influenced by a state-wide educational campaign carried on by physicians capable of placing intelligently before their clientele the advantages which must accrue to every citizen through an increasing sum of medical knowledge. Moreover, criticisms could be silenced by having generally understood the fact that animal experimentation is carried on only for the eventual purpose of further protecting the individual against disease and death, every precaution being taken to suppress unnecessary experimentation and to observe the greatest care in avoiding the infliction of pain upon the animals employed. With this end in view, the committee sent a circular letter to the secretary of each county society in the state, requesting him to arrange with his program committee for the devotion of a whole or at least a part of a meeting to the subject. Furthermore, editorials were secured which were printed, through the courtesy of Dr. Stevens, in the Pennsylvania Medical Journal, and a full discussion of the subject has been secured for the General Meeting at the forthcoming session of the State Society. The fact that the committee received but few replies to its request to the county societies, and to its subsequent offers to distribute literature in various quarters, would indicate that it has not been mistaken in its belief that the increasing danger of the present situation is not fully comprehended by the majority of physicians. The situation is indeed a grave one, one in which "the opponents of medical investigation speak for the animals; the investigators speak for men" and the clamor of the nonscientific group is both insistent and shrill. As the result of its brief experience in this work the committee has arrived at the following conclusions:—

1. The campaign of education should be continued and its scope broadened to reach the laity through newspaper articles, public utterances and scientific exhibits. In no way, however, can more good be accomplished than by the personal influence of the well-informed physician.

2. The defense of medical research would be facilitated if brought into closer relation with the work of the Committee on Public Policy and Legislation and of that on Public Health Education. Moreover, independent organizations with like aim should be urged to coöperate fully with the organization of this Society.

3. An attempt should be made to secure a certain permanency of organization, since the problems to be met will probably remain more or less constant for some time.

4. In the almost certain event of a subsequent introduction of restrictive bills before the legislature, it would be well to follow the example of previous committees in inviting prominent physicians and biologists to coöperate with the organization in a sane presentation of the question at issue. This could be accomplished by a series of short and authoritative addresses before the legislative committee.

5. It would be very desirable to increase the amount that is at present appropriated toward the furtherance of this important work.

James D. Heard, Chairman.
Thomas S. Blair.
Markley C. Cameron.

Report of Committee to Act with Pennsylvania Dairy Association.

To the President and the House of Delegates:—

Following the appointment of the undersigned committee to coöperate with the Committee from the Pennsylvania Dairy Association, your chairman took it upon himself, after consultation with Dr. Marshall, to call together the joint committee for consultation on the object for which various societies had appointed their representatives.

In presenting this report, it is probably better to bring before the Society, first, the reasons for the joint committee. These are contained in the resolutions passed by the Pennsylvania Dairy Union and Pennsylvania Live Stock and Breeders' Association, as follows:—

"*Whereas*, The public is becoming educated to the relation between unhealthy cattle and unwholesome milk

"*Whereas*, Cattle breeders and milk producers are beginning to realize that tuberculosis in their herds lessens materially their profit,

"*Whereas*, The present provisions relating to the control of tuberculin testing, the indemnity for loss on cattle slaughtered to prevent the spreading of tuberculosis, and the prevention of the sale of unwholesome milk, are incomplete, because of changes in conditions; and the appropriations made heretofore, for carrying into effect these provisions, have been insufficient, and

"*Whereas*, Legislation on these subjects requires most careful consideration in order that cattle owners may not be subjected to irreparable loss, that the funds of the state may be spent to full advantage, and that the public may be adequately protected from the sale of unwholesome milk, be it

"*Resolved*, That the Pennsylvania Dairy Union appoint a committee of three and that it request the appointment of similar committees by the Pennsylvania Live Stock Breeders' Association, the Pennsylvania State Veterinary Medical Association and the State Medical Association and that these committees act jointly and in conjunction with the State Live Stock Sanitary Board and recommend to the Legislature suitable and adequate legislation relating to the control of tuberculin testing, sufficient indemnity for cattle slaughtered to prevent the spreading of tuberculosis, and the prevention of the sale of unwholesome milk, and that upon the passage of this resolution, the secretary shall send a copy of the same to the secretary of each association named herein."

The joint committee composed of three representatives from each of the organizations; Pennsylvania Dairy Union; Pennsylvania Live Stock Breeders' Association, Pennsylvania Veterinary Medical Association, Medical Society of the State of Pennsylvania, met at the University Club in Pittsburgh on January 18, 1912, for the purpose of recommending to the Legislature a suitable bill relating to tuberculin testing in cattle, to name what is a sufficient indemnity for tuberculous cattle which have been slaughtered, and to suggest a method for the prevention of the sale of unwholesome milk.

The following members were present: Drs. William Charles White and Ogden M. Edwards, Jr., Pittsburgh, and R. P. Heilman, Emporium, of the Medical Society of the State of Pennsylvania; Drs. C. J. Marshall and Otto G. Noack, Harrisburg, and H. B. Felton, Philadelphia, of the State Veterinary Medical Association; Prof. H. E. Van Norman, State College, and Messrs. Edward E. Rieck, Pittsburgh, and Martin I. Nissley, Harrisburg, of the Pennsylvania Dairy Union; Messrs. W. C. Norton, Dalton, and W. W. Blake Arkcoll, Paoli, of the Pennsylvania Live Stock Breeder's Association; and Dr. W. S. Gimper.

Upon motion of Dr. C. J. Marshall, Dr. William Charles White, of the State Medical Society, was elected chairman of the joint committee, and Dr. Ogden M. Edwards, Jr., of the State Medical Society, was elected secretary.

. . . .

It was moved by Prof. H. E. Van Norman that this joint committee recommend that the present laws be so changed that the state shall appoint a veterinarian and pay all the expenses in connection with the inspections of all the cattle brought into the state. Motion carried.

It was moved and seconded that it be recommended that the amount of maximum indemnity be so changed that it read: $100 each for thoroughbred cows and $50 each for grade cows. Motion carried.

It was moved by Prof. H. E. Van Norman that it be suggested that the law be so changed that an alternative disposition be made of reacting animals or of their offspring, with due compensation to the state. Carried.

It was moved and seconded that the joint committee appoint a subcommittee, consisting of one representative of each of the organizations, Pennsylvania Dairy Union, Medical Society of the State of Pennsylvania, State Veterinary Medical Association, State Live Stock Sanitary Board, State Department of Health, Milk Dealers' Association, and that this committee be instructed to prepare a bill covering the uniform control of the state's milk supply. This motion was carried.

. . . .

The meeting of the subcommittees on legislation was held in the office of the commissioner of health, State Capitol, Harrisburg, May 8, 1912. The following were present: Dr. C. J. Marshall (chairman), State Live Stock Sanitary Board; Dr. W. C. White, in place of Dr. Edwards (secretary), Medical Society of the State of Pennsylvania; Mr. W. W. B. Arkcoll, Live Stock Breeder's Association; Dr. S. G. Dixon, Department of Health; Mr. James Foust, Dairy and Food Commissioner; Dr. O. G. Noack, State Live Stock Sanitary Board; Prof. H. E. Van Norman, Pennsylvania Dairy Union; Mr. Henry Woolman, Milk Dealers' Association; Dr. W. S. Gimper and Mr. E. S. Bayard.

. . . .

Considerable discussion was interjected during the reading of the minutes, bearing on the action taken at the last meeting with the object of formulating plans under which desirable specimens of pure-bred and high-grade nonregistered cattle which had reacted to the tuberculin test could be conserved to the breeding interests of this state.

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Dr. Marshall explained the purpose of the subcommittee, which is stated in the resolution adopted by the joint committee at Pittsburgh, January 12, 1912, as follows: That the joint committee appoint a subcommittee consisting of one representative from each of the following organizations: Pennsylvania Dairy Union, State Breeders' Association, State Veterinary Medical Association, Medical Society of the State of Pennsylvania, State Department of Health, and the Milk Dealers' Association, and that this subcommittee recommend to the joint committee legislation suitable to prevent the sale of unwholesome milk.

. . . .

It developed in the immediately ensuing discussion that, in a case where the Supreme Court granted an injunction against a dealer for not procuring a license, the court said that it was up to the dealer to make application and sign the agreement, and if he did not he could not sell milk in that city, and that what the Supreme Court supported could not be interfered with, but that municipalities ought to be willing to conform to the State Live Stock Sanitary Board laws and inspection.

. . . .

On motion of Prof. Van Norman, seconded by Dr. White, it was agreed that the committee try to secure the codification of the law for handling and distributing milk. Carried.

On motion of Prof. Van Norman, seconded by Dr. White, it was agreed that a paragraph be added to the proposed legislation defining the relation of city inspection and state inspection to establishments outside of city limits, covering all classes of cities. Carried.

On motion of Dr. Dixon, duly seconded, it was agreed that the word "putrefaction" be substituted for the word "decomposition" in the paragraph headed "Definition of Unwholesome Milk" and that this be adopted in the proposed legislation. Carried.

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With the additions, corrections and revisions agreed upon, the proposed legislation reads as follows:—

EXAMINATION OF ESTABLISHMENTS WHERE MILK OR MILK FOOD PRODUCTS ARE PRODUCED OR SOLD AND PROVIDING PENALTY. PROCEDURE WHEN ESTABLISHMENT IS DEFECTIVE.

It shall be the duty of the agents of the State Live Stock Sanitary Board, as provided by this act, to make examinations of stables, dairy buildings, creameries, condensaries, milk receiving-stations, vehicles, platforms, railroad trains, trolley cars or similar establishments and places where milk or milk products are produced, prepared, stored or sold for the purpose of ascertaining whether the said establishments or places are constructed, arranged, equipped, managed or cared for in such a way as injuriously to affect the healthfulness, wholesomeness or otherwise to render unfit for human food, the milk products therein produced, stored, or sold In case the establishment, or the manner in which it is arranged, equipped, managed or cared for shall be found to be defective in such particulars as to make it probable that, by virtue of such defect or defects, the milk or milk food products may be rendered unhealthful, unwholesome, or otherwise unfit for human food, it shall be the duty of the State Live Stock Sanitary Board to notify the owner, occupier, or manager thereof as to the nature of the particular defects found. The said board shall thereupon send to the owner, occupier or manager of the defective establishment or place, a notice in writing, in which the defect or defects shall be described; and the owner, occupier or manager shall thereupon, within reasonable time, remedy, remove or abolish the said defects. In the ease of a defect in regard to the construction, arrangement, equipment or management of a place where milk or milk food products are produced, prepared or sold which is deemed by the State Live Stock Sanitary Board to be of such a nature as to render it probable that the milk or milk food products therein produced, stored or sold, may, by virtue of such defects, be rendered unhealthful or unwholesome, or otherwise unfit for human food is not removed or abolished within reasonable time, to be designated by the State Live Stock Sanitary Board after notice from said board, the said establishment may be closed; and the owner, occupier or manager thereof, and all other persons are forbidden to use the said establishment or place for the production, preparation, storage or sale of milk or milk food products until the said defect is removed, remedied or abolished in a way that is approved by the State Live Stock Sanitary Board.

VIOLATION OF ACT.

If any person shall sell, transport, or offer for sale or transportation, any milk or milk food products which are unhealthful, unwholesome or otherwise unfit for human food, or shall keep his establishment, salesplace, or vehicle in an unsanitary condition after official notice has been served, he shall be guilty of a misdemeanor and upon conviction thereof shall be punished by a fine of not less than twenty-five dollars nor exceeding one hundred dollars, or imprisonment not exceeding one month, or both such fine and imprisonment, at the discretion of the court.

(Paragraph to be added defining the relation of city inspection and state inspection to establishments outside the city limits, covering all classes of cities.)

(Paragraph adopted, headed "Definition of Unwholesome Milk," with the word "decomposition" substituted for the word "putrefaction," as agreed.)

Commissioner Foust said that he thought the State Live Stock Sanitary Board ought to be abolished and there should be a bureau created with a commissioner of live stock and sanitation, and the commissioner should be empowered to go ahead and frame such laws as necessary, the same as Dr. Dixon, and the same as Secretary Critchfield, or any other commissioner; he questioned the advisability of continuing the present plan of organization of the State Live Stock Sanitary Board.

Dr. Marshall stated that Secretary Critchfield and himself had talked about that matter, but have not decided just how the change should be made. It might be advisable to make it a bureau of the Department of Agriculture, or an independent department.

There being no further business the meeting on motion adjourned.

The next meeting of the joint committee of these various associations will be held some time during the month of September. We, as the committee of the Medical Society of the State of Pennsylvania, would urge that because of the importance of this subject and because of the difficulty of carrying it through, unless the personnel of the general committee be kept intact, no change be made in the committee of the Medical Society of the State of Pennsylvania for the coming year, and we wish to urge upon every member of the State Medical Society their most efficient coöperation in securing the proposed legislation for a uniform standard of milk supply for the whole state of Pennsylvania.

Respectfully submitted,
WILLIAM CHARLES WHITE, Chairman.

NOTE. In order to present the report in the space available, much of the discussion and other matter has been omitted, but the full report will be placed in the hands of the reference committee.—C. L. S.

COMMITTEE ON LODGE PRACTICE.

To the President and the House of Delegates:—

Acting in accordance with the report of this committee at the Harrisburg Session, the committee recommended to the six medical schools of this Commonwealth that a course of three lectures on the ethics of our profession be given annually to their students, especially of the fourth year class, along the following lines which were offered simply as a suggestion: (1) Duties of the physician to the body politic; the recent social agitation looking to pensions or assistance for the infirm, the aged, the cripple; societies for mutual help; contract practice and fees. (2) Duties of the physician and medical student toward the sick in regard to visits, consultations and operations. (3) Medical secrecy; duties of physicians to one another, to their assistants, druggists, dentists, and nurses; rights and privileges of physicians. It is possible that these three divisions might be condensed into two lectures.

Dr. Frank C. Hammond, dean of Temple University, replied that their curriculum included "four lectures on Medical Ethics and Organization," which prove of inestimable value to the student when he enters "general practice." The School of Medicine of the University of Pittsburgh replied that each year a copy of the Principles of Ethics of the A. M. A. is placed in the hands of each member of the graduating class. The other four schools of medicine acknowledged the receipt of the communication and in all but one instance promised faculty action upon the recommendations.

From information obtained from the various county society secretaries we find that during the past year eight county societies have taken decided measures aimed at this form of practice; one society warned the member engaged in this work against the continuance of this form of practice, and in one society final decided action was held over until a fall meeting.

The replies from the different county societies to letters from the chairman of the committee would indicate that the offenders in this regard are chiefly young men, and practitioners of mediocre ability.

Lastly, it is our opinion that each county society is fully able to combat this evil in its confines when the necessity arises for the society to exercise its power. This power has been exercised in about twenty-five societies for several years and has proved very efficient when applied.

JOHN OENSLAGER, JR., Chairman.
By permission:—
WILLIAM C. WALLACE.
CHARLES A. E. CODMAN.
JACOB S. HACKNEY.
JOHN C. KELSO.

REPORT OF THE COMMITTEE FOR PROMOTION OF EFFICIENT LAWS ON INSANITY.

To the President and the House of Delegates:—

Your committee can report only progress. The fact that the Legislature did not meet the past year made it difficult for the committee to accomplish much. As the Legislature meets this year, it will be quite important for the "committee to be appointed," to work actively towards the securing of some new laws regarding the insane of the state.

T. M. T. MCKENNAN, Chairman.
For the Committee.

REPORT OF THE COMMITTEE ON LIBRARY.

To the President and the House of Delegates:—

Your Committee on Library has held two meetings during the year, namely on December 20, 1911 (Drs. Longenecker, Strickland and Anders being present) and on June 7, 1912 (present, Drs. Taylor, Longenecker and Anders). At the meeting held December 20, it was resolved, on motion, to send a letter (copy of which is subjoined) to all of the component county societies: this was carried out. The secretaries of several county societies responded to the effect that their societies had determined to create a working medical library, among them being Washington, Schuylkill, Lawrence, Warren and Bucks. Other county medical societies have decided to take steps to rejuvenate old collections that have been more or less neglected. Additionally, responses (sixteen) to the effect that a library was already in existence were also received.

On the occasion of the second meeting Dr. L. H. Taylor was requested to prepare a letter explaining the advantages of membership in the Medical Library Association; the contents of the letter were embodied in a communication, which the chairman of the Committee on Library was duly authorized to issue to each county society requesting a report on the work carried out in reference to the formation of a working medical library, so that it might be incorporated with the annual report to the Medical Society of the State of Pennsylvania.

It will excite no surprise to state that only sixteen replies have been received to date to the letter of the chairman issued June 25, 1912, when it is remembered that it was sent out not more than two months ago, and that some, at least, of the county societies having no library meet quarterly instead of monthly.

Dr. L. B. Kline writes under date August 21, 1912, that Columbia County Medical Society has no permanent place of meeting, but hopes to take the matter up later. Dr. F. E. Ross sends the following suggestive report: "Erie County is continuing to expend $250 annually for medical books and magazines; half of this amount is appropriated by the public library trustees and half by the medical society. The books are housed in the public library in an alcove set aside for that purpose and are under direct control of the public library trustees. We are working under special arrangements with the latter body, which requires us to turn over to the library all claim that we have to ownership of the books if by June 1, 1914, the library trustees shall have demonstrated to us their willingness to properly support the medical library and care for the same; otherwise we are at that time to remove from their building such books as have been purchased by us. The selection of all books, those purchased both by the trustees and by the society, is made by a librarian elected annually by the society." Venango County Society has just purchased a small property, and also has a few volumes as a nucleus for a library.

The chairman of the Committee on Library has, during the last half year, addressed the Schuylkill County Medical Society and the Northeast Branch of the Philadelphia County Medical Society on the subject of the "Value of a Working Medical Library to a County Society" and on both occasions the movement, having for its object the creation of such a library for every county society of the state, was warmly endorsed by other well-known members of the medical profession. It should be pointed out that only sixteen county medical societies within the state of Pennsylvania had working libraries when a collective investigation into the subject was made by the writer about two years ago.

The chief objection to the creation of working medical libraries under the auspices of county medical societies is their inaccessibility to the members who reside more or less remotely from the usual meeting place. In coming into close quarters with this apparent difficulty it is seen to vanish wherever there is a spirit of coöperation among the members residing in different portions of the county, and advantage is taken of modern methods of communication and transportation, such as the motor car, electric railway and telephone, combined with improved mail service. The parcels post system will become operative January 1, 1913, and will go far toward solving the problem at issue. This will enable physicians to remove from, and return to, the library books and journals at a trivial expense, if they will transmit their orders to the librarian by telephone.

The Committee on Library believes that in no other manner can the medical profession of our state be benefited to an equal extent than by the expenditure of time and energy in bringing about proper library facilities in each and every county.

LETTER.

The standing committee appointed by the retiring president of the Medical Society of the State of Pennsylvania, Dr. Donaldson, in October, 1911, for the purpose of encouraging the establishment of working medical libraries in connection with county medical societies, at a meeting held December 20 in Philadelphia, resolved to address the following communication to each of the secretaries of the component county societies of the state of Pennsylvania, with the urgent request that he bring it to the attention of the members at the next regular meeting:—

It is suggested that a medical library be established under the auspices of each county medical society (where this step has not already been taken), and that a committee composed of three members (to serve respectively one, two and three years) be appointed, together with a librarian, to assume charge of the undertaking. The members of said committee, and more especially the librarian, should be men who are interested in the subject, preferably book-lovers, which we believe are to be found in every county of the state.

A nucleus may be formed either by the members' donating one or more books from their private libraries or by appropriating a small sum of money from the treasury of the local society for the purpose. To maintain a library once started, a small sum of money should be appropriated annually from the treasury of the society for the purchase of medical books and journals. The growth of the library would be facilitated by donations and legacies of deceased members, while it would also be rendered more complete by means of exchanges with other libraries. A room accessible to a majority of the members should be selected for the housing of the library, preferably in a fireproof building, in a hospital or in connection with a public library.

To lessen the strain and stress, a division of the work is suggested as follows: (1) The Committee on Library to buy the medical books and journals; (2) the librarian, to act as custodian of the books and journals as well as to look after their circulation, the period of time books can be borrowed to be governed according to the distance members reside from the library, *e. g.* two to four weeks.

The committee appointed by the President of the Medical Society of the State of Pennsylvania is desirous of gathering all of the information bearing upon the present movement that it can, and it is hoped, therefore, that you will communicate to the chairman the decision reached by your local society regarding this question. The committee would also be pleased to act in an advisory capacity upon request.

Committee.
JAMES M. ANDERS, Chairman.
LEWIS H. TAYLOR.
C. B. LONGENECKER.
LEROY E. CHAPMAN.
CHARLES G. STRICKLAND.

REPORT OF THE COMMITTEE ON PLAN FOR UNIFORM REGULATION OF MEMBERSHIP.

To the President and the House of Delegates:—

The Committee on Plan for Uniform Regulation of Membership was appointed in the expectation that the American Medical Association would adopt at the 1912 session a plan recommending that the fiscal year of each county and state society begin and end with the calendar year, and that the roll of members of each county and state society as well as that of the American Medical Association be made up new each year from such as have paid the annual dues in the county society for the year in advance. This is the plan recommended by the committee of the association for three successive years, but it is a matter of such importance that the association authorized a conference of all the state secretaries in Chicago next month to consider the plan in all its bearings before taking final action in 1913. For these reasons your chairman has called no meeting during the year. The chairman would recommend that the matter be left with the appropriate committee for next year.

G. W. Guthrie, Chairman.
For the Committee.

Report of the Committee on Health and Public Instruction.

To the President and the House of Delegates:—

When the Committee on Health and Public Instruction was created, it was instructed to perform certain specified duties, and to avoid the expenditure of money. It recommended that each component county society should appoint a subcommittee from its members, and that this subcommittee should provide articles for the local newspapers and lectures for the schools, churches, and halls in the community. Attention was invited to the large collection of lantern slides in the state library, which may be utilized by our members. Also to the willingness of Health Commissioner Dixon to coöperate with our efforts. The central committee offered to act as a bureau for the exchange of speakers, etc.

The larger and more influential societies quickly responded to these suggestions. Some indeed had inaugurated this work before the appointment of this committee. In nearly every county, educational efforts have been made by members of the State Society, either as individuals or as representatives of the county societies. The latter is to be preferred as being more authoritative.

The American Medical Association has a press bureau which during the past year furnished weekly bulletins to five thousand newspapers in the United States. These bulletins covered a wide range of popular medical instruction. We suggest that the local committees should impress upon those who conduct newspapers in their localities the advisability of publishing these bulletins. The subcommittees might supplement them by articles upon local conditions. Lectures by medical men of good standing, given in the schools and halls of their home towns, have proved very effective educational measures.

Mr. B. P. Rothrock, curator of the educational department of the State Library-Museum, has agreed to coöperate in medical education by having prepared, at no expense to us, lantern slides of medical subjects. We will, however, be required to furnish the negatives from which the slides may be made. These slides may then be loaned to responsible citizens.

Health Commissioner Dixon, who has done so much to educate the public in medical affairs, is in full sympathy with our movement and will cheerfully contribute material at his disposal.

Respectfully submitted,
J. W. Ellenberger, Chairman.
William L. Estes.
Elizabeth L. Martin.
James M. Anders.
M. Howard Fussell.

Report of the Commission on Trachoma.

To the President and the House of Delegates:—

The Commission on Trachoma wishes to report that, by invitation, the chairman read a paper on "Trachoma in Its Relation to the Modern Immigrant," at the Atlantic City Session of the American Academy of Medicine; otherwise the work during the past year has been at a standstill, owing to the following facts:—

First, the commission has been waiting, as it did last year, upon the action of the State Department of Health, which, under the new School Code, has been organizing school inspection and at the same time has had under consideration the advisability of an employee inspection. So far, nothing along these lines has been reported that would help the commission in deciding on a plan for the future action of the commission. Second, the commission on June 15 recommended to the Board of Trustees the establishment of a commission for the conservation of eyesight, to undertake investigation into and formulate methods for the combating of blindness from ophthalmia neonatorum, wood alcohol, trachoma, industrial accidents and progressive myopia, the commission to consist of a chairman and five members, the members to be assigned to one, each, of the aforementioned subjects; the Commission on Trachoma has therefore assumed an attitude of waiting on the action of the trustees. Third, the American Association for the Conservation of Vision having established a committee for Pennsylvania, one member of which (the chairman of the Commission on Trachoma) having been assigned to take care of the subject of trachoma in Pennsylvania, the commission has felt that this action also tends to provide for the proper investigation of trachoma in this state.

Therefore the Commission on Trachoma comes to the following conclusions: First, that under its present form the commission is unwieldy; second, that the establishment of a commission for the conservation of eyesight, under the above conditions, be strongly recommended, in order that the various committees and commissions may be condensed and at the same time that the society may be officially represented in the growing movement for the care of the vision, which has become national in its scope; and, third, that if the above commission be established the Commission on Trachoma be discontinued.

Clarence Payne Franklin, Chairman.
For the Commission.

REPORT OF THE COMMISSION ON CANCER.

To the President and the House of Delegates:—

The Commission on Cancer has held one meeting, early in the spring, when plans were made to continue the general educational work as in previous years. It will be remembered that at the Harrisburg Session two important papers on cancer and a statistical study made by the commission were presented. These were printed in the JOURNAL and of course reached all the members of the State Society. In addition reprints of these articles were sent to every physician in the state who is not a member of the Society, so that all medical men in the state were reached by this literature.

The previous plan of inducing county societies to devote one or more meetings to the special study of cancer was continued and as far as our information goes special meetings on cancer were held by the following county societies: Butler, Franklin, Snyder, Lackawanna, Luzerne, Perry, Somerset, Indiana, Elk, Northampton and Lawrence.

Two new lines of educational work were adopted by the commission this year. First of all it seemed to the commission that much good could be accomplished if professors in various colleges should devote one or more lectures each year to impressing upon their students the importance of being constantly on the watch for the early signs of cancer and insisting on immediate proper treatment. Twelve professors in various colleges gave these lectures as requested.

Second, the commission felt that much good could be accomplished through nurses in the same way, because women frequently draw the attention of some nurse to a threatening condition much earlier than they would mention it to a physician. Thus, it seemed well to ask all the training schools in the state to have one of the medical staff give one or more lectures to the nurses on the cancer question, with special reference to the uterus and breast, so that the nurses should know the exact significance of a lump in the breast or an irregular vaginal bleeding, etc. Twenty-two hospitals throughout the state agreed to undertake this work, so that here again we believe much of value in an educational way has been accomplished.

The commission feels that the plans, followed during the past years, of interesting both the public and the medical profession in the early recognition of cancer and thereby in the reduction of its mortality are well worth the continuous efforts of the Medical Society of the State of Pennsylvania, and it believes that a commission should again be appointed for the coming year and that the trustees be requested to make the usual appropriation of $150.

J. M. WAINWRIGHT, Chairman.
E. A. WEISS.
W. L. RODMAN.
J. I. JOHNSTON.
J. B. MCALISTER.

REPORT OF THE COMMISSION ON THE PREVENTION OF TUBERCULOSIS.

To the President and the House of Delegates:—

The Commission on the Prevention of Tuberculosis met in Harrisburg on January 3. At this meeting it was determined that for the year emphasis should be laid upon the prevention of tuberculosis among school children; the program to include education of school children in the means of prevention of the disease as well as in general hygiene and sanitation, the securing of school medical inspection, and the fostering of open-air schools.

In pursuance of this plan, a letter was written to the secretary of each county medical society, asking that a system of school work be instituted similar to that successfully used in Washington County during 1911. It was recommended that each county be divided into districts and each district assigned to one or more representatives of the county society. These representatives were to visit every school in their own districts and give elementary talks on "Tuberculosis—Its Cause and the Means of Prevention." The county society was asked to work for the medical inspection and sanitation of the schools in its county, and also to advocate the institution of an open-air school wherever conditions require it.

As the commission felt that the care of advanced cases is a subject that should never be lost sight of in the tuberculosis campaign, each society was asked to hold one meeting during the year, to which the public should be invited, to discuss the question, "What can we do in our county to take care of advanced cases of tuberculosis?" The commission offered to assist the society, if requested, in securing speakers from a distance.

The response to these letters was not as great as the commission would wish to have it, and yet showed in some localities an awakened interest in the subject outlined; for instance, in Dauphin County the work has been active for some time, while in Franklin and Warren Counties measures are now being taken to organize the work.

The commission feels that its activities are, of course, limited by the difficulty of rousing many of the county societies to vigorous action. It believes, however, that the program of the year, if continued and developed for another twelve months, will provide results worth while.

CHARLES J. HATFIELD, Chairman.
For the Commission.

The Secretary presented the report of the Committee on Independence Day Injuries, which was received by him after the other reports were printed. On motion of Dr. Stevens, seconded by Dr. Baldy, the report was referred to the Reference Committee on Reports of Officers and Committeemen.

REPORT OF THE COMMITTEE ON INDEPENDENCE DAY INJURIES.

To the President and the House of Delegates:—

Former reports have been much longer than it is proposed this should be, for the reason that they dealt largely with statistics as applied to this state, with legislation, and with the inauguration of methods.

It is believed that legislation now existing, is sufficient if enforced.

The methods of production and substitution, last year followed, have only been more extensively applied.

For statistics, we would respectfully refer the House of Delegates to the report of the American Medical Association, as found in its journal for September 7 of this year. Very briefly commenting on them, we may note that, for the first time in the ten-year period of this kind of observation, Pennsylvania is among the states that had no tetanus cases, due directly to injuries from explosives.

But we still had 265 injuries, with 5 deaths and 21 serious cripplings, whereas New York had only 115 injuries and no other state over 60. Let us rejoice that the 265 cases of this year is only a little over half the number of last year and that, in the four years of existence of your committee, the annual total for the state has been progressively reduced from 986 to 265.

But again we hang our heads in shame when we remember that while we have only about one thirteenth of the population of the United States, we are furnishing over one fourth of the casualties.

It is evident that the hardest and the most telling strokes in the future should fall on our own soil. That these will not be lacking, especially in Philadelphia, we are assured by the strong organization there for this specific purpose. We may yet see the day when the American Medical Association, in referring to our comparative improvement, may not need to start with the phrase "Even in Pennsylvania."

That our committee has been powerfully influential in inaugurating and forwarding this work seems to be fully admitted by all who are conversant with the facts. Its continuation would nominally serve to connect the profession with the campaign, but it is doubtful whether it would materially add to any further achievement, since it is believed that the physicians now enlisted in the cause, will continue their enthusiasm. Considering the numerous matters that this Society must foster and the great number of such committees that it is obliged to maintain, without relinquishing our belief in this as a legitimate sphere for medical work, we are willing that the committee should be discontinued. We beg leave to make this as a recommendation with an earnest appeal to each individual member of the Society to rise with all the strength which he possesses, as always a leading citizen in his community, to the importance of this movement. We are convinced that local organizations are best fitted to cope with this work now that the public conscience has been aroused. Everywhere there are such, which would assume the work, with which physicians can honorably connect themselves, and push it. Probably better than the doctor himself in many instances, under his guidance, would be his wife, generically the noblest example of heroic devotion and immolation to the service of lord and master, that modern society presents.

Samuel Wolfe, Chairman.
For the Committee.

The Secretary presented the report of the Committee on Public Health Education Among Women, which was received by him after the other reports were printed. On motion of Dr. Stevens, seconded by Dr. John B. Turner, Philadelphia, the report was referred to the Reference Committee on Scientific Business.

Report of the Committee for Public Health Education among Women.

To the President and the House of Delegates:—

As chairman of your Committee for Public Health Education among Women, I would report that the work has progressed favorably and has been extended into two new counties since my last report, making a total of sixteen counties in which this committee has a local representative.

In Allegheny County, instead of a separate committee, the representative of this committee is to be a member of the Board of Public Instruction which has charge of all the county society's work for the education of the laity in the prevention of disease.

To induce more effective coöperation in all health education work, it is suggested that this plan be adopted by other county societies, so that the local member of the American Medical Association's Committee for Public Health Education among Women be made a member of the County Committee for Public Instruction, to have special charge of the work for women.

This plan was suggested by the Council on Health and Public Instruction of the American Medical Association, at the Los Angeles meeting, for both state and county societies.

During this year there have been reported 149 single lectures and 11 series given by 73 physicians and others trained in health subjects, with audiences of over 10,000. The most popular topics were those relating to eugenics, child welfare and education in hygiene. Eighteen lectures were given in the public schools to pupils of all grades. This committee has also tried to interest the community in better sanitation in schools and railroad stations, the purification of streams, the prevention of tuberculosis and venereal diseases, a safe and sane Fourth of July, etc., and has met with a fair degree of success.

In McKean County, regular newspaper articles on health topics, prepared by the local member of this committee, have been published. This committee appreciates the opportunity which has been given it this year to arrange an open meeting for women in connection with the annual session of the State Society. The interest shown in this prospective meeting indicates that it will prove a valuable means of increasing the influence of the State Medical Society in Public Health Education.

As chairman of this committee, I wish to take this opportunity to express my appreciation of the unselfish effective work that has been done by the county chairman and the many other members of the State Society who have cordially responded to requests for lectures and in other ways contributed to the success of the work.

Hoping that as members of the state and county societies you will continue to help in this work for the health and happiness of humanity, this report is respectfully submitted.

Elizabeth L. Martin, Chairman.
For the Committee.

The Secretary read the report of the Board of Trustees, which on motion of Dr. J. M. Baldy, was referred to the Reference Committee on New Business.

Report of the Board of Trustees.

Scranton, Pa., September 23, 1912.

To the House of Delegates:—

The Board of Trustees and Councilors begs leave to report that a meeting was held at Atlantic City, June 3, 1912. At that meeting a committee of three was appointed to consider the advisability of reducing the number of committees of the Society according to the action of the House of Delegates at Harrisburg. This committee reported at a meeting held at Hotel Casey to-day and the Board adopted the following report:—

The House of Delegates at Harrisburg requested the Board of Trustees to consider the advisability of reducing the number of committees. Your trustees have carefully considered the whole matter and recommend the following substitute for Chapter VII. of the By-laws, and request unanimous consent for its adoption at this session so that it may go into immediate effect.

CHAPTER VII.—COMMITTEES.

Section 1. The standing committees of the Society shall be as follows:—

A Committee on Scientific Work.
A Committee on Public Policy and Legislation.
A Committee on Society Comity and Policy.
A Committee on Health and Public Instruction.
A Committee on Benevolence.
A Committee on Arrangements.

Section 2. The Committee on Scientific Work shall consist of the President, Secretary and Assistant Secretary of the Society, the Chairman of the Committee on Arrangements and the Chairmen and Secretaries of the sections and a Chairman appointed annually by the retiring President. It shall determine the character and scope of the scientific proceedings of the Society for each session, subject to the instructions of the House of Delegates. At least thirty days previous to each annual session it shall prepare and issue a program, announcing the order in which papers and discussions shall be presented.

Section 3. The Committee on Public Policy and Legislation shall consist of three members and the President and Secretary. The retiring President in 1912 shall appoint one member to serve for three years, one for two years and one for one year, and annually thereafter the retiring President shall appoint one member to serve for three years. Under the direction of the House of Delegates, this committee shall represent the Society in securing and enforcing legislation in the interest of public health and scientific medicine. It shall keep in touch with professional and public opinion, shall endeavor to shape legislation so as to secure the best results for all the people of the state and shall strive to organize professional and lay influence so as to promote the general good of the community in local, state and national affairs. There may be appointed by the President at the request of the committee a limited number of advisory members as experts, such advisory members to report directly to the committee and to be responsible to it. (This committee will absorb Committees on Inebriate Hospital, Defense of Medical Research, Vaccination, Refracting Opticians, Pennsylvania Dairy Association, Promotion of Efficient Laws on Insanity.)

Section 4. The Committee on Society Comity and Policy shall consist of five members. The retiring President in 1912 shall appoint one member to serve for five years, one for four years, one for three years, one for two years, one for one year, and annually thereafter the retiring President shall appoint one member to serve for a period of five years. This committee shall keep informed concerning matters between the Society and the American Medical Association, between the Society and the component county societies, and between the component county societies and their members, and shall recommend to the House of Delegates such action as will best uphold the dignity and honor of the medical profession, exalt its standards, extend its sphere of usefulness and promote the advancement of medical science. (This committee will absorb Committees on Lodge Practice, Library, Plan for Uniform Regulation of Membership.)

Section 5. The Committee on Health and Public Instruction shall consist of five members. The retiring President in 1912 shall appoint one member to serve for five years, one for four years, one for three years, one for two years, one for one year, and annually thereafter the retiring President shall appoint one member to serve for a period of five years. It shall be the duty of this committee, subject to the House of Delegates, to attempt to bring together the lay people and the profession, to increase confidence in scientifically trained physicians, and to unite the public and the medical profession in a campaign for better health conditions. There may be appointed at the request of the committee, by the President, a limited number of advisory members as experts, such advisory members to report directly to the committee and to be responsible to it. (This committee will absorb Committees on Medical Advertising, Independence Day Injuries, and Public Health Education among Women, and probably Commissions on Trachoma, Tuberculosis and Cancer.)

Section 6. The Committee on Benevolence shall consist of the Secretary, the Treasurer, and three members to be selected annually by the Trustees, at least one of whom shall be a Trustee, this committee to act in behalf of the Board of Trustees. The committee shall select its own chairman, secretary and treasurer, and shall have absolute and confidential jurisdiction over the distribution of such part of the Medical Benevolence Fund as may be placed in its hands. No money shall be paid from its treasury except on warrant signed by the chairman and secretary of the committee, and an annual audit of its accounts shall be made by a committee of the Trustees, the names of the beneficiaries being omitted. All beneficiaries shall be designated by number, and after each annual audit all communications tending to show the personality of the same shall be destroyed. The committee may solicit subscriptions, donations and legacies to be added to the principal of the Medical Benevolence Fund. It may also receive subscriptions to be used for the relief of members in distress from the effects of any special catastrophe.

Section 7. The Committee on Arrangements shall be appointed by the President on the recommendation of the component society of the county in which the annual session is to be held. The committee shall effect an organization and coöperate with and work under the advice and supervision of the Assistant Secretary in making arrangements for the annual session.

Section 8. The regular committees of the House of Delegates shall be as follows, the appointments to be made annually by the President early in September from the members already reported as members of the House of Delegates for the coming session of the Society:—

A Committee on Credentials.

A Reference Committee on Reports of Officers and Standing Committees.

A Reference Committee on Scientific Business.

A Reference Committee on New Business.

Section 9. The Committee on Credentials, of the House of Delegates, shall consist of three members of the House of Delegates for the coming session of the Society, to which shall be referred all questions regarding the registration and the credentials of delegates.

Section 10. The Reference Committee on Reports of Officers and Standing Committees shall consist of three members of the House and to it shall be submitted all reports of officers and committees not otherwise specifically referred to other committees, for its consideration and recommendation before action may be taken by the House.

Section 11. The Reference Committee on Scientific Business shall consist of three members of the House and to it shall be referred all new business of a scientific nature, not otherwise specifically referred to other committees, for its consideration and recommendation before action may be taken by the House.

Section 12. The Reference Committee on New Business shall consist of three members of the House and to it shall be referred resolutions introducing ordinary new business, not specifically referred to other committees, before action may be taken by the House. This committee is specially charged with all resolutions conveying the thanks of the Society.

Section 13. The House of Delegates on recommendation of the Committee on Scientific Work may authorize special commissions to undertake scientific investigations during the interim between the meetings of the House of Delegates. Such commissions shall automatically be discharged unless specifically continued by the House of Delegates.

Section 14. The House of Delegates on recommendation of the Committee on Society Comity and Policy may authorize special committees to undertake a specific work or to investigate a specific subject. Such committees shall report to the next meeting of the House of Delegates and be automatically discharged unless specifically continued by the House of Delegates.

The Trustees desire to call attention to the expiration of the terms of Drs. W. Albert Nason, Fifth District; Thomas D. Davis, Seventh District, and David H. Strickland, Eighth District. Dr. Strickland is not eligible for reëlection, having faithfully served "six years consecutively." The Board respectfully suggests that the House of Delegates in filling these vacancies elect one Trustee from each of these three councilor districts, namely the fifth, the seventh and the eighth, as by so doing the work of the Councilors will be facilitated and the best interests of the county societies and the State Society will be advanced.

The Board thinks the present *per capita* assessment for the Medical Defense Fund is sufficient, unless there be a marked increase in the number of cases, and as long as our Councilors are willing to attend to these cases without compensation. In other state societies the councilors receive a *per diem* compensation for their services in looking after the alleged malpractice cases.

The Board requests the privilege of making further reports during the session.

Respectfully submitted,
T. D. Davis, Chairman.

The Secretary announced that the report of Dr. W. L. Estes, South Bethlehem, as delegate to the Eighth Annual Conference on Medical Education and Medical Legislation, Chicago, February, 1912, is printed on page 910, Pennsylvania Medical Journal, August, 1912, and on motion of Dr. W. P. Walker, seconded by Dr. Stevens, the report was referred to the Reference Committee on Reports of Officers and Committees.

The Secretary read the following communication from Dr. Aaron Brav, Philadelphia, which was on motion referred to the Reference Committee on Scientific Business to be considered along with the report of the Commission on Trachoma:—

James Tyson, M.D., President,—Permit me to suggest the advisability of appointing a committee for the prevention of blindness from ophthalmia neonatorum. This disease is largely preventable and is still the cause of a very high percentage of blindness in children.

Dr. Herman B. Allyn, Philadelphia, presented the following communication on dispensary abuse, from the Philadelphia County Medical Society, which, on motion of Dr. Allyn, seconded by Dr. J. M. Baldy, was referred to the Reference Committee on New Business:—

The delegates from the Philadelphia County Medical Society offer the following for the consideration of the House of Delegates and ask the adoption of the same:—

1. Every individual dispensary physician, head and assistant, should constitute himself a committee of one sincerely and steadily to strive to abolish the abuse; especially should this be done by the members of the Philadelphia County Medical Society.

2. A Social Service department should be established in connection with each institutional dispensary, so as to ascertain those patients who are and are not able to pay; and further, as in the work of the Society for Organizing Charity, to follow up the cases for thoroughness and accuracy of information.

3. That it should be a misdemeanor under the state law for any hospital or dispensary receiving state financial aid to treat as free patients those who, it is found, are able to pay a medical fee.

4. That, consequent upon the preceding suggestion, the county society delegates to the next state medical convention should be instructed to induce the Committee on Legislation of that body to take up the matter of formulating such a law tending to diminish or prohibit the dispensary abuse throughout this Commonwealth.

5. Overlapping in treatment ought to be, and can be prevented, by the system of registration. Each dispensary should send to a registration bureau at stated intervals, preferably every day, either by mail or telephone, a list of the patients who have applied for treatment. In response to this inquiry the dispensary is given the names of such other institutions as have already registered the same patients. The use of geographical areas is another available method of prevention.

6. Social service work as established by several of the Philadelphia hospitals and dispensaries for investigation and social treatment has proved to be a connecting link.

7. The solution of the problem of dispensary abuse must be largely in the hands of medical men, although it virtually affects the treatment of the poor by charitable societies. Any movement looking to the improvement of work in which the county medical society has a common interest will draw our hearty coöperation.

There should be, as a general statement, a willing coöperation on the part of all chiefs and associates; and there may be the working of a tentative system of registration in harmony with the Society for Organizing Charity. There must be, essentially, a unity of spirit, sentiment, conviction and belief; a unanimity of opinion, utterance, attitude; a uniformity of method and procedure; a vital, efficient union in the actual work and beneficence of the service. To this end your committee recommend for adoption by the various dispensaries a card similar to that used by the New York State Board of Charities, as follows:—

Name	Date
Dr.	No. in family
Nationality	Address
Occupation, Man	Woman
Income	Rent

This is my........application to this Dispensary in the year........

I have been an applicant to no other Dispensary in the year........(or to the following dispensaries) ....

The foregoing is in all respects true.
Signature of applicant......................

Admitted .... Refused ....

Dr. John B. Roberts, chairman of the Reference Committee on New Business, announced that the amendments proposed by the Board of Trustees in their report to the House of Delegates would come before the House of Delegates on Tuesday morning, and requested all members to be present.

The Secretary read a communication from the Fourth National Conservation Congress to be held in Indianapolis, Ind., October 1-4, 1912, and on motion of Dr. Stevens, seconded by Dr. Hammond, the President and Secretary were empowered to appoint as delegates such members as may express a willingness to attend the Congress.

The Secretary read a communication from Dr. W. L. Rodman, Philadelphia, asking the House of Delegates to consider the propriety of changing the time of the annual session so that it might not interfere with the opening week in the medical schools. On motion of Dr. L. J. Hammond, seconded by Dr. Alice M. Seabrook, Philadelphia, the communication was referred to the Reference Committee on New Business.

On motion of Dr. Baldy, seconded by Dr. Krusen, the House of Delegates adjourned until 9 o'clock Tuesday morning, in the Masonic Building.

TUESDAY MORNING, SEPTEMBER 24, 1912.

The House of Delegates was called to order by the President, Dr. James Tyson, at 9:15 A. M., and forty-two members answered to roll call.

The minutes of the meeting of September 23 were read and approved.

Dr. Roberts, chairman of the Reference Committee on New Business, announced that the committee consisting of Drs. Alexander G. Fell, Wilkes-Barre; John B. Lowman, Johnstown, and John B. Roberts, Philadelphia, had held two meetings to discuss the matters referred to them on Monday evening as follows:—

Regarding the letter from Dr. Rodman, suggesting a change in the time of holding the annual session, the committee makes no recommend because the By-Laws provide a method by which the House of Delegates may change the time of the session.

The committee recommends the continuance for another year of the Committee to Act with the Pennsylvania Dairy Association with the same personnel.

The committee recommends that the House

of Delegates approve the spirit of, and the propositions for, lessening the dispensary evils suggested by the Philadelphia County Medical Society, and recommends that the communication be transmitted to the Committee on Public Policy and Legislation.

The committee approves the suggestion of the Board of Trustees that the assessment for the Medical Defense Fund be not increased.

The committee also recommends that vacancies caused by the expiration of the terms of certain Trustees be filled by Trustees elected from the councilor districts in which the vacancies occur, that is, the fifth, seventh and eighth councilor districts.

The committee heard the objections and the arguments in favor of the adoption of the amendments proposed by the Trustees to Chapter VII. of the By-Laws. The parliamentary situation is this: Dr. Gates offered a resolution in the House last year requesting the Trustees to consider during the year such amendments as they might think proper to reduce the number of committees. The Board of Trustees considered the matter and has brought before us this series of amendments. Your committee recommends the adoption of Chapter VII. as proposed by the Trustees.

It was moved by Dr. J. B. Roberts and seconded by Dr. L. J. Hammond that the substitute for Chapter VII. of the By-Laws, proposed by the Trustees, be adopted. The motion was discussed by Drs. Roberts, Wagoner and Estes, when Dr. J. M. Baldy objected to the unanimous passage at the session, and moved that they lie over until the next session, and that they be referred back to the Trustees for further consideration. The motion was seconded by Dr. James B. Tweedle, Carbon County, and prevailed.

On motion, duly seconded, the House adjourned until 9 o'clock Wednesday morning, to meet in the rooms of the Lackawanna County Medical Society.

WEDNESDAY MORNING, SEPTEMBER 25, 1912.

The House of Delegates was called to order by the Vice President, Dr. H. C. Frontz, at 9:10 A.M. in the rooms of the Lackawanna County Medical Society, Real Estate Building, and sixty-eight members responded to roll call.

The minutes of the meeting of September 24 were read. On motion of Dr. J. B. Roberts, seconded by Dr. A. R. Allen, Carlisle, the discussions on amendments to the By-Laws were ordered expunged from the minutes. Otherwise the minutes were approved.

The Chair having declared the election of officers to be in order Dr. A. G. Fell, Wilkes-Barre, placed in nomination for President Dr. Lewis H. Taylor, Wilkes-Barre. The nomination was seconded by Dr. E. B. Heckel, Pittsburgh, and others, and on motion all nominations were closed. On motion of Dr. John Oenslager, Jr., seconded by Dr. D. H. Strickland, the Secretary was instructed the cast the ballot for the House, which he did, and the Chair announced the unanimous election of Dr. Lewis H. Taylor, Wilkes-Barre, as President for the ensuing year.

Drs. A. A. Long, York; David H. Strickland, Erie; M. Howard Fussell, Philadelphia, and John C. Gilland, Greencastle, were nominated as Vice Presidents and, on motion of Dr. Baldy, seconded by Dr. David Nathan, Norristown, the nominations were closed. On motion of Dr. E. B. Heckel, seconded by Dr. G. E. Holtzapple, York, the Secretary was instructed to cast the ballot for the House. He did so and the nominees were declared elected first, second, third and fourth Vice Presidents respectively.

Dr. C. L. Stevens, Athens, was nominated for the office of Secretary to succeed himself. On motion of Dr. Luther B. Kline, Catawissa, seconded by Dr. M. W. Horner, Mt. Pleasant, the nominations for Secretary were closed and the chairman was instructed to cast the ballot for the House. This was done and Dr. Stevens was declared elected Secretary for the ensuing year.

Dr. William H. Cameron, Pittsburgh, was placed in nomination for Assistant Secretary by Dr. Stevens. There being no other nominations, on motion of Dr. Fell, seconded by Dr. Allen, the Secretary was instructed to cast the ballot for the House, which he did, and Dr. Cameron was declared elected.

Dr. Strickland placed in nomination for the office of Treasurer Dr. George W. Wagoner, Johnstown. There being no other nominations, on motion of Dr. Allen, seconded by Dr. Fell, the Secretary was instructed to cast the ballot for the House, which he did and Dr. Wagoner was declared elected.

The chairman announced the next order of business to be the election of Trustees in the fifth, seventh and eighth districts. In the fifth district, Dr. Thomas D. Davis, Pittsburgh, was nominated to succeed himself; in the seventh district Dr. W. Albert Nason, Roaring Spring, was nominated to succeed himself, and in the eighth district Dr. James Johnston, of McKean County, was nominated. On motion of Dr. Heckel, seconded by Dr. Fell, the Secretary was instructed to cast the ballot for the House, which he did, and the three nominees aforementioned were elected Trustees for a term of three years.

On motion of Dr. G. G. Harman, seconded by Dr. Holtzapple, a vote of thanks was extended to Dr. Strickland for his efficiency in serving on the Board of Trustees for six years.

The Secretary read the names of the nominees for district censors as handed in by the several county societies, and announced that nominations were in order for the following counties: Adams, Bedford, Elk, Greene, Lackawanna, Mercer, Montour, Perry, Snyder, Union and Washington. Nominations were made and on motion the Secretary was instructed to cast the ballot for the House for district censors, which he did, and the nominees were declared elected. (See succeeding pages.)

The chairman announced the next order of business to be the election of four members of the House of Delegates of the American Medical Association, and the following members were placed in nomination: Drs. W. Rowland Davies, Scranton; John B. McAlister, Harrisburg; Frank P. Lytle, Birdsboro; T. D. Davis, Pittsburgh; William T. Hamilton, Philadelphia; Joseph D. Findley, Altoona, and John Foster, New Castle.

The Chair appointed Drs. John Oenslager, Jr., L. B. Kline and J. W. Albright tellers to receive and count the ballots, and the House proceeded to the election of Delegates.

While waiting for the tellers to count the votes Dr. Wilmer Krusen, on behalf of the medical profession of Philadelphia, extended an invitation to the society to meet in Philadelphia in 1913. On motion of Dr. E. B. Heckel, seconded by Dr. L. M. Gates, the invitation was accepted and the House decided to meet in Philadelphia in 1913.

Some discussion was held regarding the time of the next session and a motion that the session begin on the second Monday of September, 1913, was finally withdrawn.

On motion of Dr. Wilmer Krusen the following resolution was adopted:—

Resolved, That the Medical Society of the State of Pennsylvania reaffirms its position in urging the impartial endorsement of the Pure Food Laws which are upon the statute books of the state.

The following resolution was read by Dr. H. B. Allyn, and on motion referred to the Reference Committee on Reports of Officers and Committeemen:—

Whereas, There has recently been a widespread movement among medical and civic organizations to clear the columns of the daily newspapers and periodicals from fraudulent and pernicious medical advertisements which are a fraud upon the public, which prey upon the poor and which diminish the chances of recovery of the sick.

Whereas, Such advertisements constitute a cruel fraud and result in a direct loss of money, life and health, now be it

Resolved, That the Medical Society of the State of Pennsylvania ask the Committee on Medical Advertising to devise ways and means to protect the public and remove all fraudulent medical advertisements from the columns of the daily press, periodicals and publications throughout the state.

At this juncture the tellers announced that the following members had received a majority of the votes cast for members of the House of Delegates of the American Medical Association, namely: Drs. John B. McAlister, Harrisburg; Thomas D. Davis, Pittsburgh; W. Rowland Davies, Scranton, and William T. Hamilton, Philadelphia. These members were thereupon elected as delegates to the American Medical Association for two years.

On motion of Dr. A. R. Allen, seconded by Dr. L. B. Kline, the nominees for delegates who were not elected were placed in nomination as alternate delegates to the American Medical Association, namely: Drs. Frank P. Lytle, Birdsboro; Joseph D. Finley, Altoona, and John Foster, New Castle. Additional nominations were made as follows: Drs. John J. Coffman, Scotland; John H. Murray, Punxsutawney; W. M. Robertson, Warren; L. J. Hammond, Philadelphia, and W. T. Williams, Mt. Carmel.

On motion of Dr. Heckel, seconded by Dr. Krusen, the nominations were closed and the Secretary was instructed to cast the ballot for the House. This was done and the nominees were declared elected alternate delegates to the American Medical Association for two years.

The Secretary read the following resolution, which on motion was referred to the Reference Committee on New Business:—

Whereas, Epidemics of smallpox are prevailing in certain sections of the State of Pennsylvania, and

Whereas, The local authorities in some instances have not been able to cope with the epidemic, and

Whereas, The Commissioner of Health of the State of Pennsylvania and his assistants have taken charge of the fight against the disease in certain localities, be it

Resolved, That the Medical Society of the State of Pennsylvania endorse the action of the Commissioner of Health as wise and well suited to the present emergency.

William M. Welch.
David Riesman.
J. M. Baldy.
Geo. Morris Piersol.
W. H. Hartzell.
J. J. Coffman.

The following resolution was presented by Dr. F. L. VanSickle, Olyphant, and on motion referred to the Reference Committee on Scientific Business:—

Resolved, That it is the desire of the House of Delegates of the Medical Society of the State of Pennsylvania that legislation regulating the practice of midwifery in the state be strengthened and that the Committee on Public Policy and Legislation be instructed to confer with the Bureau of Medical Education and Licensure relative to the introduction of such legislation at the coming session of the Legislature.

The House proceeded to consider the recommendations of the Reference Committee on New Business presented yesterday morning.

No amendment having been proposed providing for an increase in the amount set aside each year for the Medical Defense Fund no action was necessary on the recommend of either the Trustees or the committee.

On motion of Dr. Roberts, seconded by Dr. Krusen, the House approved the spirit of and the propositions for lessening dispensary evils as suggested by the Philadelphia County Medical Society, and referred the communication to the Committee on Public Policy and Legislation with power to act.

On motion of Dr. Hammond, seconded by Dr. Fell, the recommendation of the committee regarding the report of the Committee to Act with the Pennsylvania Dairy Association was approved and the committee continued.

Dr. E. B. Heckel, chairman of the Reference Committee on Scientific Business reported as follows: Your reference committee recommends the commendation of the Committee on Health and Public Instruction, and that the committee be continued.

The report of the Committee on Defense of Medical Research states certain conclusions at which the committee has arrived, tabulated under five heads, all of which your reference committee thinks are well taken. Point two, suggesting a closer relation between the Committee on Defense of Medical Research and the Committees on Public Policy and Legislation and on Health and Public Instruction, seems especially pertinent. Your reference committee suggests that the committee be continued and that the House take some action which will bring these committees into closer relationship.

Your reference committee endorses the suggestions made in the report of the Commission on Trachoma, to create a Commission for the Conservation of Vision, and to discontinue the Commission on Trachoma. In this connection we also include the letter from Dr. Aaron Brav of Philadelphia, requesting the establishment of a Commission for the Prevention of Blindness and Ophthalmia Neonatorum. We, therefore, recommend the creation of a Commission for the Conservation of Vision to be made up of ten ophthalmologists who may add ten lay members to aid and assist in the work of the commission, the commission to take over the work of the present Trachoma Commission and the Committee on Refracting Opticians, and to take up ophthalmia neonatorum and industrial eye injuries in their relation to blindness, in short to take up anything which will tend to conserve vision.

Your reference committee heartily endorses the work accomplished by the Committee on Public Health Education among Women and recommends the continuance of its efficient chairman, Dr. Elizabeth L. Martin, Pittsburgh.

Your reference committee recommends the continuance of the Commission on Cancer, and that the House ask the Trustees for an appropriation of $150 for the use of this commission.

On motion, duly seconded, the House of Delegates adopted the several recommendations of the Reference Committee on Scientific Business regarding the Committee on Health and Public Instruction, the Committee on Defense of Medical Research, the establishment of a Commission on the Conservation of Vision, the Committee on Public Health Education among Women and the Commission on Cancer.

Dr. William H. Hartzell, Allentown, chairman of the Reference Committee on Reports of Officers and Committees, submitted the following report:—

A number of the reports required no action on the part of the committee because no specific requests were made.

The reports of the Secretary and Assistant Secretary as well as the reports of the Committee on Archives, Committee on Plan for Medical Defense, Committee on Inebriate Hospital, Committee for Promotion of Efficient Laws on Insanity, and Committee on Plan for Uniform Regulation of Membership, we recommend to be received and filed, and that the last two mentioned committees be continued.

The reports of the Councilors were carefully examined and your committee found much pleasure in their manner, character and fullness and we most heartily commend them to the House of Delegates to be received and filed.

We recommend that the report of the Committee on Public Policy and Legislation be received and its suggestions adopted.

We suggest that the resolutions advocated by the Committee on Medical Advertising be approved by the House of Delegates, these resolutions being as follows:—

Resolved, That each component county medical society be requested to appoint annually a committee of three members, whose duty it shall be to inspect the advertising columns of the publications of their county, and when objectionable advertisements are discovered let the committee or the society take such action as it shall deem advisable.

Resolved, That these committees be requested to report the results of their work to the Committee on Medical Advertising of the Medical Society of the State of Pennsylvania by the first day of August of each year.

Regarding the resolutions on advertising introduced by Dr. Wilmer Krusen at the Wednesday morning session and referred to your committee, we recommend that the same be referred to the Committee on Medical Advertising with the approval of the House.

We recommend that the Committee on Lodge Practice be continued and that the suggestions in their report be referred to the several component county societies.

We recommend that the House of Delegates express their appreciation of the efficient services of the Committee on Independence Day Injuries and the good work accomplished by it, and that the committee be discharged as requested, and with the thanks of the House of Delegates.

The report of the Committee on Library warmly appeals to your reference committee, and we suggest that the work be continued until a working library shall be found in every component county society.

On motion, duly seconded, the several recommends of the Reference Committee on Reports of Officers and Committees regarding the Committee for Promotion of Efficient Laws on Insanity, the Committee on Plan for Uniform Regulation of Membership, the Committee on Public Policy and Legislation, the Committee on Medical Advertising, the Committee on Lodge Practice, the Committee on Independence Day Injuries, the Committee on Library, and the resolutions introduced by Dr. Wilmer Krusen, were adopted by the House.

Dr. John B. Roberts, chairman of the Reference Committee on New Business, stated that during the past year the Commission on Tuberculosis has endeavored to stir up the county medical societies in regard to the prevention of tuberculosis among school children.

The Reference Committee on New Business feels that this committee has done good work, but as there has been a feeling expressed by the Trustees and by members of the Society and by the House of Delegates in regard to the great number of committees, the Reference Committee on New Business presents the following report: That the work of the Commission on Tuberculosis be discontinued with the thanks of the Society, for the reason that it will save money.

On motion of Dr. Roberts, seconded by Dr. Allen, the Commission on Tuberculosis was discontinued.

Dr. William L. Estes presented the following resolution which was seconded by Dr. Krusen and adopted:—

Inasmuch as some misunderstanding exists and some confusion occurs in regard to the continuance of minor committees, it is suggested that the House of Delegates call attention to the fact that the parliamentary usage always prevails, and that the committees, other than the standing committees, shall automatically discontinue after their year of service, unless otherwise directed by the House of Delegates.

On motion the House adjourned to meet at 9 o'clock Thursday morning in the Lackawanna County Medical Society rooms.

THURSDAY MORNING, SEPTEMBER 26, 1912.

The House of Delegates was called to order by the President, Dr. James Tyson, at 9:10 A. M., in the Lackawanna County Medical Society rooms, and on motion, duly seconded, the calling of the roll was dispensed with.

The Secretary read the minutes, and, on motion of Dr. Roberts, seconded by Dr. Hammond, the Secretary and the Assistant Secretary, Dr. Cameron, were requested to condense the minutes, but otherwise they were approved.

The Secretary announced that he had received a resolution from the Section on Surgery requesting the House of Delegates to appoint a Commission on Venereal Diseases, and moved that it be referred to the Reference Committee on New Business, with the request that that committee report at its earliest convenience. The motion was seconded by Dr. Allyn of Philadelphia and carried.

Dr. Roberts, for the Reference Committee on New Business, recommended the appointment by the House of a Commission on Venereal Diseases, and on motion the House authorized the appointment of a Commission on Venereal Diseases.

The Secretary read the following resolution from the Section on Surgery:—

That the House of Delegates be asked to appoint a committee of three, the function of which shall be (1) to take measures for the introduction into the public school curriculum of a systematized course of instruction upon the causes, avoidance and prevention of contagious diseases, including under this heading those commonly termed venereal; (2) to urge upon the proper health authorities provision for the sequestration of those suffering from contagious diseases and to frame and present acts if these be needful which shall legalize detention of the infected as long as may be needed, in the interest of public safety; (3) to secure legislation having for its end the requirement of a medical certificate as to freedom from contagious disease before the issuance of a marriage license; (4) to secure legislation having for its end the castration of congenital idiots, habitual criminals and the criminally insane.

On motion of Dr. Roberts, seconded by Dr. Heckel, the resolutions were referred to the Committee on Public Policy and Legislation to act in conjunction with the Commission on Venereal Diseases.

The Reference Committee on New Business, to which was referred the resolution regarding the epidemic of smallpox introduced by Dr. Welch and others on Wednesday, reported that after very careful consideration subsequent to hearing all sides of the question, it unanimously recommends the adoption by the Society without change or amendment.

It was moved by Dr. J. M. Baldy, and seconded by Dr. John Oenslager, Jr., that the resolution as read be adopted. There was considerable discussion pro and con.

It was moved by Dr. W. Rowland Davies, and seconded by Dr. L. M. Gates, that the motion to adopt the resolution be tabled. By a rising vote of 21 to 19 the motion to table the resolution was carried.

The following resolution was presented by Dr. George W. Wagoner:—

The Medical Society of the State of Pennsylvania disavows the personal criticism of the Department of Health to which it unexpectedly listened in an address of welcome. It also regrets that this unofficial criticism should have been taken as justification for the public interviews granted by the officials of the Department of Health. In each instance the Medical Society of the State of Pennsylvania was the victim of circumstances over which it had no control.

On motion of Dr. Wagoner, seconded by Dr. Roberts, the resolution as read was after discussion adopted.

On motion, of Dr. Roberts, seconded by Dr. Baldy, the Secretary was instructed to furnish a copy of the resolution introduced by Dr. Wagoner to the associate press for publication.

On motion of Dr. E. B. Heckel, seconded by Dr. Baldy, the following resolution was adopted:—

Resolved, That the House of Delegates hereby creates a Press Bureau, the function of which shall be the proper dissemination of news from this society to the public press. It shall exercise a censorship over all items in connection with our annual sessions before giving them to the public press. The Press Bureau shall be made up of eight members as follows: The Secretary and Assistant Secretary to be permanent members; these two shall choose a third man from the local members of the next meeting place and these three shall choose five of the local members of the place of meeting, and designate one for the proceedings of the House of Delegates, one for the General Meetings, one for the Section on Surgery, one for the Section on Medicine, and for one the Section on Specialties. This Bureau shall choose a representative of the public press to whom, and to whom alone or his representative, all news items and all matters for public publication shall be entrusted.

Dr. Heckel and Dr. John B. Turner offered the above resolution as an amendment to the By-Laws to be voted on next year.

Dr. Strickland presented the report of the Auditing Committee as follows:—

The Committee of the Board of Trustees appointed by the chairman to audit the Treasurer's books and accounts respectfully reports that they have carefully gone over the books and accounts and find the same to be correct in every particular. We find the system of bookkeeping used by the officers very commendable, simple, explicit and comprehensible.

D. H. Strickland.
W. Albert Nason.

On motion of Dr. Stevens, the President and Secretary were empowered to appoint delegates to sister societies.

On motion of Dr. E. B. Heckel the thanks of the Society were extended to Dr. W. Rowland Davies, chairman of the Committee on Arrangements, to the Lackawanna County Medical Society, to the school board, to the officers of the Society, and to all whose assistance and courtesies added to the success of the sixty-second annual session of the Society.

On motion, the House adjourned *sine die* at 10:30 A.M. James Tyson, President.
C. L. Stevens, Secretary.

MINUTES OF THE GENERAL MEETING.

TUESDAY MORNING, SEPTEMBER 24, 1912.

The Medical Society of the State of Pennsylvania met in General Meeting in the Masonic Building at Scranton, and was called to order at 10:15 A.M., September 24, 1912, by the President, Dr. James Tyson, Philadelphia.

Prayer.

BY REV. WALTER M. WALKER, D.D., PASTOR OF IMMANUEL BAPTIST CHURCH.

Our Heavenly Father, Thou hast created man a "little lower than the angels." Thou hast crowned him with glory and honor, and given him dominion over the works of Thy hands. Thou hast blessed him with marvelous powers, and for all Thy gifts we return thanks unto Thee; for every agency and every influence that makes for better and nobler manhood and womanhood we give Thee our tribute of praise.

This morning especially do we seek Thy blessing upon this company of men who have prepared themselves to minister to the physical ailments to which the flesh is heir. We pray that Thou wilt guide them in their deliberations together. May the love of truth fill their hearts, and as they shall take counsel concerning the things of mutual interest, may they learn lessons that shall the better fit them for their great task in life. May they recognize the unseen realities. May they believe in Thy presence and Thy power; and, in their several fields of labor as they minister to the physical needs of men, may they be enabled also to minister to those higher needs and to enkindle faith in Him who is eternal.

Bless this Society, its members, its officers and all of the deliberations of these days that these men shall spend together. In Christ's name we ask it, Amen.

Address of Welcome.

Dr. William Rowland Davies, President of the Lackawanna County Medical Society, announced with regret the inability of Mayor VonBergen to be present, and in a few words, extended the welcome of the city. He then, on behalf of the Lackawanna County Medical Society, welcomed the State Medical Society to Scranton, and concluded his address with the presentation to Dr. Tyson of a gavel and block made of anthracite coal. These were accepted by Dr. Tyson with expressions of warm appreciation.

The Secretary stated that he had received the credentials of the following visiting delegates: Dr. Edward J. Porteous, Atlantic City, Dr. Alexander Armstrong, White Haven, from the Medical Society of New Jersey; Drs. W. F. Horn, Carlisle; Charles Rehfuss and W. A. Carpenter, Philadelphia, from the Pennsylvania Pharmaceutical Association. It was moved, seconded and carried that these gentlemen be received and extended all the privileges of the floor.

Dr. J. Montgomery Baldy, Philadelphia, took the chair, and Dr. James Tyson delivered the annual address. (See page 1.)

Dr. T. D. Davis, Pittsburgh, moved that a vote of thanks be tendered the President for his interesting and valuable historical address, and that a copy be requested for publication. This motion was seconded and carried.

"Medical Expert Testimony from the Legal Standpoint" was read by Francis Fisher Kane, Esq., Philadelphia.

"Medical Expert Testimony from the Medical Standpoint" was read by Dr. Francis X. Dercum, Philadelphia.

The preceding two papers were discussed by Drs. G. C. Johnston, Pittsburgh; J. W. Albright, Muncy; J. M. Baldy, Philadelphia; and closed by Mr. Kane and Dr. Dercum.

Dr. C. L. Stevens, Athens, moved that a vote of thanks be given Mr. Kane for his paper, and that a copy be requested for publication in the Journal. The motion was seconded and carried.

The Secretary presented an invitation from the White Haven Sanatorium to visit the institution, and announced a smoker to be given by the Jefferson Medical College Alumni this, Tuesday, evening at the Hotel Jermyn.

"The Pituitary Body in Disease and the Results of Surgical Intervention" was read by Dr. Charles H. Frazier, Philadelphia, and discussed by Drs. Lawrence Litchfield, G. C. Johnston, Pittsburgh; W. C. Posey, Wendell Reber, F. X. Dercum, Philadelphia; and closed by Dr. Frazier.

"The Medical Profession, Public Opinion, and Animal Experimentation" was read by Dr. Oskar

Klotz, Pittsburgh, and discussed by Drs. J. E. Sweet, Nathaniel Ginsburg, Philadelphia; J. D. Heard, Pittsburgh; G. R. Moffitt, Harrisburg; and closed by Dr. Klotz.

Adjourned until evening at 8 o'clock.

TUESDAY EVENING, SEPTEMBER 24, 1912.

Lantern Slide Demonstration on the "Uses of the Röntgen Ray in Neurology" was given by Dr. George E. Pfahler, Philadelphia.

Moving Pictures of Nervous Diseases were exhibited by Dr. Theodore H. Weisenburg, Philadelphia.

These were discussed by Dr. Charles K. Mills, Philadelphia.

Adjourned until Wednesday, September 25, at 9 A.M.

WEDNESDAY MORNING, SEPTEMBER 25, 1912.

The meeting was called to order at 9:15 A.M., the President, Dr. James Tyson, in the Chair. The minutes of the preceding meeting were read and approved.

"The Treatment of Epilepsy with Hypodermic Injections of Crotalin. A Study of the Effect of the Venom on the Coagulability of the Blood. Report of Cases Treated" was read by Dr. Ralph H. Spangler, Philadelphia, and discussed by Drs. M. Solis-Cohen, George M. Dorrance, L. Napoleon Boston, Harry Lowenburg, Philadelphia; and closed by Dr. Spangler.

"Breech Presentations. A Study of 100 Cases from the Maternity Service of the Woman's Medical College of Pennsylvania" was read by Dr. Alice Weld Tallant, Philadelphia, and discussed by Dr. A. J. Winebrake, Scranton, and closed by Dr. Tallant.

"Midwives in Pennsylvania" was read by Dr. B. Franklin Royer, Harrisburg, and discussed by Dr. A. J. Winebrake, Scranton.

"Medical Inspection of School Children" was read by Dr. Samuel G. Dixon, Philadelphia, and discussed by Drs. Walter S. Cornell, Philadelphia; E. W. Tool, Freeburg, C. E. Thomson, Scranton, and closed by Dr. Dixon.

"The Bacteriology of Catarrh and Common Colds" was read by A. Parker Hitchens, Glenolden, and discussed by Drs. Walter Webb, Swarthmore; N. E. Newbury, Scranton, and closed by Dr. Hitchens.

"Hemiplegia with Gradual Onset, Due to a Cerebral Neoplasm" by Drs. M. Howard Fussell and Samuel Leopold, Philadelphia, was read by Dr. Fussell.

"Functional Psychoses of the Senile Period" was read by Dr. Albert C. Buckley, Philadelphia.

"Dietetics and Policing of Camps" was read by Major H. A. Arnold, Ardmore, and discussed by Drs. M. H. Fussell, L. J. Hammond, Philadelphia, and closed by Dr. Arnold.

Adjourned until September 26, at 2 P.M.

THURSDAY AFTERNOON, SEPTEMBER 26, 1912.

The meeting was called to order at 2:10 P.M., the President, Dr. James Tyson, in the Chair. On motion the reading of the minutes was dispensed with.

"The Use and Abuse of the Thyroid Gland in Obesity" was read by Dr. Henry D. Jump, Philadelphia.

"The Medical Aspect of Pulmonary Surgery," the first paper in the symposium on "Diseases of the Thorax Amenable to Surgical Intervention," was read by Dr. H. R. M. Landis, Philadelphia.

"Surgical Considerations" was read by Dr. Samuel Robinson, Boston, Mass.

"Intrathoracic Tumors," by Drs. Joseph Sailer and Robert G. Torrey, Philadelphia, was read by Dr. Torrey.

"The Technic of Thoracic Operations" was read by Dr. W. Wayne Babcock, Philadelphia.

The preceding four papers were discussed by Drs. T. Turner Thomas, J. H. Jopson, Alfred Hand, Jr., Philadelphia; Alexander Armstrong, White Haven; H. O. Baldwin, Dalton: and closed by Drs. Robinson and Torrey.

At the President's request, Drs. F. L. Van Sickle, Olyphant, and C. H. Miner, Wilkes-Barre, conducted the President Elect, Dr. Lewis H. Taylor, Wilkes-Barre, to the Chair.

Dr. James Tyson made a speech of welcome to the President Elect, which was responded to by Dr. Taylor.

Dr. Tyson stated that the announcement of appointments to the various committees would be made by him later.

On motion of the Secretary a vote of thanks of the Society was tendered Dr. Robinson for his valuable, interesting and instructive address and his kind attendance at the meeting, and a copy of his paper was requested for publication.

On motion the reading of the minutes was omitted.

Society in General Meeting then adjourned.

JAMES TYSON, President.

C. L. STEVENS, Secretary.

MINUTES OF THE SECTION ON MEDICINE.

TUESDAY AFTERNOON, SEPTEMBER 24, 1912.

The Section on Medicine met in the Hotel Casey, Scranton, September 24, 1912, and was called to order at 2:15 P.M., by the Chairman, Dr. Charles H. Miner, Wilkes-Barre.

The scientific business was opened with a symposium on "Myocardium and Mechanism of the Heart Beat."

The Chairman's Address was delivered by Dr. Miner.

"Physiology of the Heart" was contributed by Dr. Charles Claude Guthrie, Pittsburgh, an abstract being read by Dr. Oskar Klotz.

"Instruments of Precision" was read by Dr. Howard G. Schleiter, Pittsburgh.

"Auricular Fibrillation" was read by Dr. James E. Talley, Philadelphia.

"Infectious Febrile Heart" was read by Dr. George W. Norris, Philadelphia.

"The History of Digitalis," by Dr. John W. Boyce, Pittsburgh, was read by title.

"Digitalis" was read by Dr. M. Howard Fussell, Philadelphia.

On motion, the time allowed in opening the discussions was extended from five to ten minutes.

The preceding six papers were discussed by Drs. H. A. Hare, J. M. Anders, David Riesman, W. E. Robertson, Philadelphia; Oskar Klotz, Pittsburgh; and closed by Drs. Schleiter, Talley, Norris, and Fussell.

"Relation of Animal Fat to Tubercle Bacilli Fat" was read by Dr. William Charles White, Pittsburgh, and discussed by Dr. Oskar Klotz, Pittsburgh.

Adjourned until September 25, at 2 P.M.

WEDNESDAY AFTERNOON, SEPTEMBER 25, 1912.

The Section was called to order at 2:15 P.M. by the Chairman, Dr. Miner. The minutes of the preceding meeting were read and approved.

"Diagnosis and Treatment of Gastric and Duodeual Ulcers," the first paper in the symposium on "Affections Capable of Producing Acute Epigastric Pain," was read by Dr. Silas D. Molyneux, Sayre.

The Executive Committee reported the nominations of Dr. James D. Heard, Pittsburgh, for Chairman, and Dr. Alfred Haud, Jr., Philadelphia, for Secretary. They were unanimously elected.

"Early Diagnosis of Gastric Carcinoma" was read by Dr. John Herr Musser, Jr., Philadelphia.

"Affections of the Gall Bladder Which may Produce Epigastric Pain" was read by Dr. Joseph Sailer, Philadelphia.

"Surgical Aspects of Epigastric Pain" was read by Dr. John H. Jopson, Philadelphia.

"Visceral Ptosis" was read by Dr. William S. Newcomet, Philadelphia.

The preceding five papers were discussed by Drs. W. H. Corrigan, Wilkes-Barre; Edwin Zugsmith, Pittsburgh; J. Torrance Rugh, W. E. Robertsou, Philadelphia; and closed by Drs. Molyneux, Sailer, Jopson and Newcomet.

Adjourned until Thursday, September 26, at 9 A. M.

THURSDAY MORNING, SEPTEMBER 26, 1912.

The Section was called to order at 9:20 A.M. by the Chairman, Dr. Miner. The minutes of the preceding meeting were read and approved.

"Early Paresis" was read by Dr. Alfred Gordon, Philadelphia, and discussed by Dr. R. N. Willson, Jr., Philadelphia, aud closed by Dr. Gordon.

"Sclerotic Involvement of the Mitral Valve" was read, with exhibition of lantern slides" by Dr. Robert N. Willson, Jr., Philadelphia, and discussed by Dr. Alfred Gordon, Philadelphia, and closed by Dr. Willson.

"Infant Feeding" was read by Dr. Alfred Hand, Jr., Philadelphia.

"Caloric Value of Foods, Especially in Feeding Children" was read by Dr. Clifford B. Farr, Philadelphia.

The preceding two papers were discussed by Drs. Henry T. Price, Pittsburgh; Sarah Wyckoff, Wilkes-Barre; James H. McKee, Harry Lowenburg, Philadelphia; and closed by Drs. Hand and Farr.

"Proctoclysis as a Curative and Prophylactic Agent in Primary and Secondary Acute Nephritis in Children" was read by Dr. Harry Lowenburg, Philadelphia.

"The Effects of the Ingestiou of Various Oils on the Leukocytic Picture in Pulmonary Tuberculosis," by Drs. Myer Solis-Cohen and Albert Strickler, Philadelphia, was read by Dr. Cohen.

"Occupation Diseases of the Skin Exclusive of the So-called Trade Eczemas" was read by Dr. Frank C. Knowles, Philadelphia.

Section adjourned *sine die*.

CHARLES H. MINER, Chairman.
JAMES D. HEARD, Secretary.

MINUTES OF THE SECTION ON SURGERY.

TUESDAY AFTERNOON, SEPTEMBER 24, 1912.

The Section on Surgery met in the Assembly Room of the Masonic Building, Scranton, and was called to order at 2:15 P.M. by the Chairman, Dr. Otto C. Gaub, Pittsburgh.

The Chairman addressed the Section relative to business to come before the House of Delegates. On motion of Dr. J. T. Rugh it was recommended to the House of Delegates that a Commission for Venereal Diseases be established. The Chairman called attention to the fact that only three papers from outside of Philadelphia and Pittsburgh were submitted for the Section on Surgery to the committee, and urged that papers be offered from other parts of the state.

"The Use of Tuberculin in Tubercular Adenitis of the Neck" was read by Dr. Americus R. Allen, Carlisle, and discussed by Dr. G. M. Dorrance, Philadelphia.

"Vaccine Therapy in Tubercular Bone and Joint Disease" was read by Dr. David Silver, Pittsburgh, and discussed by Drs. G. G. Davis, M. Solis-Cohen, Philadelphia; and closed by Dr. Silver.

"Acute Osteomyelitis" was read by Dr. John H. Gibbon, Philadelphia, and discussed by Drs. W. L. Estes, South Bethlehem; G. G. Davis, and L. J. Hammond, Philadelphia.

"Treatment of Inguinal Hernia in Children" was read by Dr. Evan W. Meredith, Pittsburgh, and discussed by Drs. Edward B. Hodge, Jr., J. H. Gibbon, Philadelphia; Charles E. Thomson, Scrantou; and closed by Dr. Meredith.

"Operative Technic of Strangulated Hernia" was read by Dr. J. D. Singley, Pittsburgh, and discussed by Drs. J. B. Roberts, J. H. Gibbon, Philadelphia; and closed by Dr. Singley.

"Treatment of Flat Foot; a Plea against the Misuse of the Insole" was read by Dr. DeForest P. Willard, Philadelphia, and discussed by Drs. David Silver, Pittsburgh; C. E. Thomson, Scranton; J. T. Rugh, Philadelphia; and closed by Dr. Willard.

"Paraplegia in Hodgkin's Disease. Treatment by Laminectomy and the Röntgen Rays" by Drs. Charles K. Mills and Edward Martin, Philadelphia, was read by Dr. Mills, followed by Dr. Martin.

"Report of Cases Illustrating Certain Phases of Cerebrospinal Surgery" was read by Dr. J. Stewart Rodman, Philadelphia, and discussed by Drs. T. H. Weisenburg, C. K. Mills, Edward Martin, Philadelphia, and closed by Dr. Rodman.

"High-Frequency Desiccation. A Report upon its Value in Certain Surgical and Dermatological Conditions, with a Note upon Fulguration and Thermoradiotherapy" was read by Dr. William L. Clark, Philadelphia, and illustrated by lantern slides.

Adjourned until September 25, at 2 P.M.

WEDNESDAY AFTERNOON, SEPTEMBER 25, 1912.

The Section was called to order at 2:15 P.M. by the Chairman, Dr. Gaub. The minutes of the preceding meeting were read and approved.

The report of the Excutive Committee was read, placing in nomination Dr. John B. Lowman, Johnstown, for Chairman, and Dr. Floyd E. Keene, Philadelphia, for Secretary. It was moved by Dr. John B. Roberts that the Secretary be instructed to cast the ballot in favor of the nominees. The motion was carried and the ballot cast.

The Secretary read the following resolution, together with a clipping from a Scranton paper regarding a demonstration and clinic:—

"In view of the fact that a ruling of the Society has been violated at the present meeting in that a clinic and demonstration were given during the working hours of the organization to the necessary detriment of the interest and attendance required by the section meetings, we recommend such action in regard to this dereliction by the Section and the House of Delegates as may most effectually discourage its repetition."

(Signed) GEORGE W. GUTHRIE.
EDWARD MARTIN.
J. M. WAINWRIGHT.

On motion of Dr. Hammond, Philadelphia, the matter was referred to the Executive Committee.

"Restoring Mobility in Ankylosis of the Joints" was read by Dr. R. Tunstall Taylor, Baltimore, Md., and discussed by Drs. J. K. Young, J. T. Rugh, John B. Roberts, Philadelphia, and closed by Dr. Taylor.

"The Surgical Treatment of Procidentia or Complete Prolapse of the Uterus, Bladder and Vagina" was read by Dr. Richard C. Norris, Philadelphia, and discussed by Drs. J. M. Baldy, B. M. Anspach, H. D. Beyea, J. M. Fisher, Philadelphia; C. E. Thomson, Scranton; and closed by Dr. Norris.

"Pyelography in the Diagnosis of Surgical Diseases of the Kidney" was read by Dr. Floyd E. Keene, Philadelphia, and discussed by Drs. B. M. Anspach, G. E. Shoemaker, J. M. Baldy, H. R. Loux, Philadelphia; G. C. Johnston, Pittsburgh; and closed by Dr. Keene.

"The Present Status of the Arsenical Treatment of Syphilis" was read by Dr. Edward Martin, Philadelphia, and discussed by Drs. H. R. Loux, Nathaniel Ginsburg, Philadelphia; and closed by Dr. Martin.

"The Differential Diagnosis and Treatment of Puerperal Infections" was read by Dr. Raleigh R. Huggins, Pittsburgh, and discussed by Drs. J. M. Fisher, Philadelphia, and A. J. Winebrake, Scranton.

"Acute Membranous Vaginitis in Pregnancy, Due to Enterococcus" was read by Dr. George Erety Shoemaker, Philadelphia, and discussed by Dr. J. M. Fisher, Philadelphia.

Dr. Edward Martin, Philadelphia, offered the following: "That the House of Delegates be asked to appoint a committee of three the function of which shall be (1) to take measures for the introduction into the public school curriculum of a systematized course of instruction upon the causes, avoidance and prevention of contagious diseases, including under this heading those commonly termed venereal; (2) to urge upon the proper health authorities provision for the sequestration of those suffering from contagious diseases and to frame and present acts if these be needful which shall legalize detention of the infected as long as may be needed in the interests of public safety; (3) to secure legislation having for its end the requirement of a medical certificate as to freedom from contagious disease before the issuance of a marriage license; (4) to secure legislation having for its end the castration of congenital idiots, habitual criminals and the criminally insane."

Adjourned until September 26, at 9 A.M.

THURSDAY MORNING, SEPTEMBER 26, 1912.

The Section was called to order at 9:15 A.M. by the Chairman, Dr. Gaub. The minutes of the preceding meeting were read and approved. A notice of the closing of thé Commercial Exhibit at 2:30 P.M. was read.

"Successful Removal of Ulcerated Carcinoma of the Breast by the Halstead Operation" was read by Dr. Joseph D. Farrar, Philadelphia.

Dr. Martin then stated that the report referred to in the minutes of September 25 had been made to the House of Delegates.

The report of the Commission on the End Results of Fractures of the Femur was read by Dr. William L. Estes, South Bethlehem, and discussed by Drs. Edward Martin, Ernest Laplace, Philadelphia, and closed by Dr. Estes.

On motion of Dr. J. T. Rugh, Philadelphia, this report was received and filed and the Commission discharged with the thanks of the Section.

The report of the Commission on Cancer was read by Dr. Jonathan M. Wainwright, Scranton. It was moved by Dr. W. L. Estes that the report be received and filed, that the Commission be continued and that the Trustees be requested to make a grant of $150 for expenses during the coming year. The motion was seconded; discussed by Drs. J. M. Wainwright, G. E. Shoemaker, Edward Martin and W. L. Estes; and carried.

"Thrombosis of the Mesenteric Artery" was read by Dr. Ernest Laplace, Philadelphia, and discussed by Drs. L. J. Hammond, Edward Martin, G. E. Shoemaker, Philadelphia; W. L. Estes, South Bethlehem; and closed by Dr. Laplace.

By unanimous consent of the Section, Dr. George W. Guthrie, Wilkes-Barre, submitted the report of the Executive Committee, in regard to the resolution referred to it by the Section at the previous meeting, as follows:—

"The Executive Committee of the Section on Surgery, to whom was referred the matter of one of its members having conducted a clinic during working hours of the Section, reports that on investigation there are some palliating circumstances which lead them to believe that more formal and public action than the protest already made by them will not be required.

"Your committee takes the occasion, however, to reaffirm the generally accepted belief that operations or clinics given at such time as may interfere with the work of either the central body or any of the Sections, not only violate the principles of professional courtesy, but, directly, the written laws of the Society."

(Signed) George W. Guthrie, Chairman.
Edward Martin.
J. M. Wainwright.

On motion of Dr. L. J. Hammond, Philadelphia, the report was received and approved.

"High Intestinal Obstruction, Postoperative Ileus and Acute Pancreatitis" was read by Dr. J. Edwin Sweet, Philadelphia, and discussed by Dr. Edward Martin, Philadelphia.

"Pyloric Stenosis, with Special Reference to the Benign Types" was read by Dr. L. J. Hammond, Philadelphia, and discussed by Drs. H. B. Gibby, Wilkes-Barre; H. D. Gardner, Scranton; Ernest Laplace, Philadelphia.

The Chairman then called attention to the fact that fifteen volunteer papers and six solicited papers had been presented, which constituted a marked advance over previous years and a source of congratulation to the Section.

On motion of Dr. Ernest Laplace, Philadelphia, a vote of thanks was tendered the retiring officers of the Section for the efficient and capable manner in which the meeting and program had been prepared and conducted.

The minutes were read and approved.

Section adjourned *sine die*.

Otto C. Gaub, Chairman.
J. Torrance Rugh, Secretary.

MINUTES OF THE SECTION ON EYE, EAR, NOSE AND THROAT DISEASES.

TUESDAY AFTERNOON, SEPTEMBER 24, 1912.

The Section on Eye, Ear, Nose and Throat Diseases met in the Committee Room of the Masonic Building, Scranton, and was called to order at 2:15 p.m. by the Chairman, Dr. Wendell Reber, Philadelphia.

Dr. Reber then resigned the Chair to Dr. William Campbell Posey, Philadelphia, and delivered his address on "The Teaching of Ophthalmology in America," and announced that Dr. Posey would present a resolution bearing upon this address at the next meeting.

"The Conservation of Vision" was read by Dr. F. Park Lewis, Buffalo, N. Y.

"Trachoma in its Relation to Blindness" was read by Dr. Clarence P. Franklin, Philadelphia.

"Some Effects of Artificial Light upon the Eye, with Means of Determining the Same" was read by Dr. William Campbell Posey, Philadelphia.

"The Prevention of Industrial-Plant Injuries to the Eyes" was read by Dr. William W. Blair, Pittsburgh.

"The Sociological Aspect of Errors of Refraction" was read by Dr. William Zentmayer, Philadelphia.

"Ophthalmia Neonatorum and Its Relation to Blindness" was read by Dr. Edward B. Heckel, Pittsburgh.

"Dynamite-Cap Injuries to the Eyes" was read by Dr. John B. Corser, Scranton.

The preceding seven papers were discussed by Drs. S. D. Risley, Herbert Ives, Wendell Reber, J. B. Turner, Philadelphia; Lewis H. Taylor, Wilkes-Barre; Edward Stieren, G. C. Johnston, Pittsburgh; C. M. Harris, Johnstown, and closed by Drs. Lewis, Posey, Corser and Zentmayer.

The Chair appointed Dr. E. B. Heckel, Pittsburgh, to take the place of Dr. W. F. Robeson, and Dr. L. H. Taylor, Wilkes-Barre, to take that of Dr. G. Hudson-Makuen, on the Executive Committee, both of these gentlemen being absent.

On motion of Dr. E. B. Heckel, Pittsburgh, the Section expressed, by a rising vote, their thanks to Dr. Lewis for coming to the meeting.

On motion of Dr. J. B. Turner, Philadelphia, a vote of thanks was given to Dr. Ives for participating in the discussion.

Adjourned until September 25, at 2 p.m.

WEDNESDAY AFTERNOON, SEPTEMBER 25, 1912.

The Section was called to order at 2:15 p.m. by the Chairman, Dr. Reber. The minutes of the previous meeting were read and approved.

The Executive Committee reported the following nominations for the ensuing year: Chairman, Dr. Chevalier Jackson, Pittsburgh; Secretary, Dr. Clarence M. Harris, Johnstown. They were unanimously elected.

Dr. W. C. Posey, Chairman of the Executive Committee, presented as a part of the report, the following: "*Resolved*, That the Section on Specialties approve of the views contained in the address of the Chairman, regarding a more advanced curriculum for students in ophthalmology, and recommend that the postgraduate schools of the state so lengthen their courses that their graduates may attain a higher degree of proficiency." The resolution was adopted.

Dr. E. B. Heckel, Pittsburgh, reported that the House of Delegates had, by unanimous action, just created a Commission on the Conservation of Vision.

On motion of Dr. William Zentmayer, Philadelphia, the Section expressed its appreciation of the action taken by the House of Delegates in regard to this matter.

On motion of Dr. Posey it was decided that the Secretary of the Section should communicate to the secretary of the Ophthalmological Section of the A. M. A. information regarding this action on the part of the Medical Society of the State of Pennsylvania.

"The Surgical Treatment of Glaucoma" was by invitation read by Dr. John E. Weeks, New York; and discussed by Drs. L. H. Taylor, Wilkes-Barre; S. D. Risley, W. C. Posey, Philadelphia; and closed by Dr. Weeks.

On motion of Dr. Heckel a rising vote of thanks was tendered Dr. Weeks.

"The Diagnostic and Therapeutic Value of Needle Puncture of the Maxillary Sinus," the first paper of the symposium on "Accessory Sinuses," was read by Dr. Herbert M. Goddard, Philadelphia.

"Bilateral Pansinusitis. Operation. Thrombosis. Meningitis. Recovery" was read by Dr. M. Delmar Ritchie, Pittsburgh.

"The Drainage of the Accessory Sinuses in Atrophic Rhinitis" was read by Dr. John F. Culp, Harrisburg.

"The Treatment of Suppuration of the Antrum of Highmore," by Dr. E. Baldwin Gleason, Philadelphia, was read by Dr. Charles A. O'Reilly, Philadelphia.

"Exploratory Opening of the Sphenoid Sinus" was read by Dr. Charles P. Grayson, Philadelphia.

The preceding five papers were discussed by Drs. R. H. Skillern, G. M. Coates, G. W. Mackenzie, C. A. O'Reilly, Philadelphia; G. R. S. Corson, Pottsville; C. M. Harris, Johnstown; H. F. Pyfer, Norristown; J. J. Sullivan, Jr., Scranton; G. C. Johnston, Pittsburgh; and closed by Drs. Goddard, Ritchie and Grayson.

"Personal Experience with Streptococcic Infection Involving the Optic Nerves" was read by Dr. Fremont W. Frankhauser, Reading, and discussed by Drs. G. W. Mackenzie, J. B. Turner, Wendell Reber, Philadelphia; and closed by Dr. Frankhauser.

"Etiology of Phlyctenular Conjunctivitis and Suggested Treatment" was read by Dr. Howard F. Pyfer, Norristown, and discussed by Drs. L. C. Peter, J. B. Turner, Wendell Reber, Philadelphia; L. H. Taylor, Wilkes-Barre, C. M. Harris, Johnstown; N. S. Weinberger, Sayre; G. E. Dean, Scranton; and closed by Dr. Pyfer.

Adjourned until Thursday, September 26 at 9 A.M.

THURSDAY MORNING, SEPTEMBER 26, 1912.

The Section was called to order at 9:45 A.M. by the Chairman, Dr. Reber. The minutes of the preceding meeting were read and approved.

"The Present Status of the Cataract Operation" was read by Dr. Samuel D. Risley, Philadelphia, and discussed by Drs. L. H. Taylor, Wilkes-Barre; J. B. McMurray, Washington; H. F. Pyfer, Norristown; J. J. Sullivan, Jr., Scranton; C. J. Kistler, Lehighton; and Wendell Reber, Philadelphia, and Dr. Risley.

The author of the paper on "Intubation," Dr. Royal W. Bemis, Philadelphia, was absent, and his paper was not read.

"Carcinoma of the Larynx, Operation by Thyrotomy with Subsequent Hemilaryngectomy" was read by Dr. George W. Mackenzie, Philadelphia, and discussed by Drs. C. A. O'Reilly, G. M. Coates, Philadelphia; W. H. Sears, Huntingdon; J. H. McCready, Pittsburgh; H. F. Pyfer, Norristown; J. J. Sullivan, Jr., Scranton; and closed by Dr. Mackenzie.

"Hypopyon Ulcer of the Cornea and Its Treatment" was read by Dr. Clarence M. Harris, Johnstown, and discussed by Drs. G. W. Carr, Wilkes-Barre; J. B. Corser, G. E. Dean, Scranton; N. S. Weinberger, Sayre; J. B. McMurray, Washington; F. C. Stahlman, Charleroi; J. B. Turner, Wendell Reber, Philadelphia; G. R. S. Corson, Pottsville; W. H. Sears, Huntingdon; J. C. Kistler, Lehighton; and closed by Dr. Harris.

"Report of a Case of Injury to the Eye" was read by Dr. G. R. S. Corson, Pottsville.

"The Corrections of the Nasal Deformities of the Nose" was read by Dr. George Morley Marshall, Philadelphia, and discussed by Drs. R. F. Ridpath, G. W. Mackenzie, R. H. Skillern, Philadelphia; J. J. Sullivan, Jr., J. B. Corser, Scranton; H. F. Pyfer, Norristown; G. R. S. Corson, Pottsville; C. M. Harris, Johnstown; and closed by Dr. Marshall.

The minutes were read and approved.

Section adjourned *sine die*.

WENDELL REBER, Chairman.
CLARENCE M. HARRIS, Secretary.

Officers and Committeemen for the Year 1912-1913.

PRESIDENT: Lewis H. Taylor, 83 South Franklin St., Wilkes-Barre.

VICE PRESIDENTS: First—Alfred A. Long, York; Second—David H. Strickland, Erie; Third—M. Howard Fussell, Philadelphia; Fourth—John C. Gilland, Greencastle.

SECRETARY: Cyrus Lee Stevens, Athens. ASSISTANT SECRETARY: William H. Cameron, 4615 Forbes St., Pittsburgh.

TREASURER: George W. Wagoner, 435 Franklin St., Johnstown.

TRUSTEES AND COUNCILORS:

Thomas D. Davis, Chairman, 261 Shady Ave., Pittsburgh, Term Expires, 1915.

	Term Expires		Term Expires
W. Albert Nason, Roaring Spring,	1915	William L. Estes, South Bethlehem,	1913
James Johnston, Bradford,	1915	Isaac C. Gahle, York,	1913
William T. Sharpless, West Chester,	1914	George G. Harman, Clerk, Huntingdon,	1913
Frederick L. VanSickle, Olyphant,	1914	Lewis H. Taylor, Wilkes-Barre,	Ex-officio.
Alem P. Hull, Montgomery,	1914	Cyrus Lee Stevens, Athens,	Ex-officio.

COMMITTEE ON ARRANGEMENTS:

Henry D. Jump, Chairman, 4634 Chester Ave., Philadelphia.
(The other members to be selected later by the Philadelphia Co. Med. Society.)

COMMITTEE ON SCIENTIFIC WORK:

Lawrence Litchfield, Chairman, 5431 Fifth Ave., Pittsburgh.
Lewis H. Taylor, Wilkes-Barre. Cyrus Lee Stevens, Athens.

And the Section Officers as follows:

Medicine—James D. Heard, Chairman, Pittsburgh; Alfred Hand, Jr., Secretary, Philadelphia.
Surgery—John B. Lowman, Chairman, Johnstown; Floyd E. Keene, Secretary, Philadelphia.
Specialties—Chevalier Jackson, Chairman, Pittsburgh; Clarence M. Harris, Secretary, Johnstown.

COMMITTEE ON PUBLIC POLICY AND LEGISLATION:

Frank G. Hartman, Chairman, 136 North Duke St., Lancaster.
J. Montgomery Baldy, Philadelphia.
John B. McAlister, Harrisburg.
Lewis H. Taylor, Wilkes-Barre.
Cyrus Lee Stevens, Athens.

COMMITTEE ON ARCHIVES:

Howard C. Carpenter, Chairman, 1805 Spruce St., Philadelphia.
Thomas B. Hill, Waynesburg.
Cyrus Lee Stevens, Athens.

COMMITTEE ON MEDICAL ADVERTISING:

Luther B. Kline, Chairman, Catawissa.
James A. C. Clarkson, Lewistown.
Harry H. Whitcomb, Norristown.
John J. Coffman, Scotland.
Jay B. F. Wyant, Kittanning.

COMMITTEE ON DEFENSE OF MEDICAL RESEARCH:

James D. Heard, Chairman, Liberty National Bank Bldg., Pittsburgh.
Charles E. Ziegler, Pittsburgh.
M. Howard Fussell, Philadelphia.
Oskar Klotz, Pittsburgh.
W. M. L. Coplin, Philadelphia.

COMMITTEE TO ACT WITH PENNSYLVANIA DAIRY ASSOCIATION:

William Charles White, Chairman, Bedford Ave. and Wandlass St., Pittsburgh.
Russell P. Heilman, Emporium.
Ogden M. Edwards, Jr., Pittsburgh.

COMMITTEE ON LODGE PRACTICE:

John Oenslager, Jr., Chairman, 711 North Third St., Harrisburg.
Charles A. E. Codman, Philadelphia.
Alexander G. Fell, Wilkes-Barre.
George E. Holtzapple, York.
Warren F. Klein, Lebanon.

COMMITTEE FOR PROMOTION OF EFFICIENT LAWS ON INSANITY:

Thomas M. T. McKennan, Chairman, Jenkins Arcade Bldg., Pittsburgh.
Samuel S. Hill, Wernersville.
Charles K. Mills, Philadelphia.
Edward E. Mayer, Pittsburgh.
J. Moorehead Murdoch, Polk.

COMMITTEE ON LIBRARY:

James M. Anders, Chairman, 1605 Walnut St., Philadelphia.
Leroy E. Chapman, Warren.
Charles G. Strickland, Erie.
Christian B. Longenecker, Philadelphia.
George H. B. Terry, Wyalusing.

COMMITTEE ON PLAN FOR UNIFORM REGULATION OF MEMBERSHIP:

George W. Guthrie, Chairman, 109 S. Franklin St., Wilkes-Barre.
Theodore B. Appel, Lancaster.
William H. Cameron, Pittsburgh.
Alexander R. Craig, Chicago, Ill.
J. Torrance Rugh, Philadelphia.
Cyrus Lee Stevens, Athens.

COMMITTEE ON MEDICAL BENEVOLENCE:

William S. Wray, Chairman, 2007 Chestnut St., Philadelphia.
Edward B. Heckel, Pittsburgh.
William T. Sharpless, West Chester.
George W. Wagoner, Johnstown.
Cyrus Lee Stevens, Athens.

COMMITTEE ON HEALTH AND PUBLIC INSTRUCTION:

John B. McAlister, Chairman, 234 North Third St., Harrisburg.
James M. Anders, Philadelphia.
William L. Estes, South Bethlehem.
Elizabeth L. Martin, Pittsburgh.
Charles W. Eisenhower, York.

COMMITTEE FOR PUBLIC HEALTH EDUCATION AMONG WOMEN:

Elizabeth L. Martin, Chairman, 329 S. Dallas Ave., Pittsburgh.
Margaret B. Best, Meadville.
Persis Rosamond Straight, Bradford.
Kate DeWitt Miesse, Easton.
Catharine Macfarlane, Philadelphia.

COMMISSION ON CANCER:

Jonathan M. Wainwright, Chairman, 436 Wyoming Ave., Scranton.
James I. Johnston, Pittsburgh.
Donald Guthrie, Sayre.
William L. Rodman, Philadelphia.
Edward A. Weiss, Pittsburgh.

COMMISSION ON VENEREAL DISEASES:

Edward Martin, Chairman, 1506 Locust St., Philadelphia.
Samuel G. Dixon, Harrisburg.
George W. Guthrie, Wilkes-Barre.
Lawrence Litchfield, Pittsburgh.
John B. McAlister, Harrisburg.

COMMISSION ON CONSERVATION OF VISION:

William Campbell Posey, Chairman, 21st and Chestnut Sts., Philadelphia.
Clarence P. Franklin, Philadelphia.
James Thorington, Philadelphia.
Thomas B. Holloway, Philadelphia.
Edward B. Heckel, Pittsburgh.
William Zentmayer, Philadelphia.
Wendell Reber, Philadelphia.
William W. Blair, Pittsburgh.
Lewis H. Taylor, Wilkes-Barre.
Clarence M. Harris, Johnstown.

MEMBER OF THE NATIONAL LEGISLATIVE COUNCIL OF THE A. M. A.

William L. Estes, 805 Delaware Ave., South Bethlehem.

MEMBERS, HOUSE OF DELEGATES, AMERICAN MEDICAL ASSOCIATION:

(The off-set names are the alternates.)

	Term Expires.
Thomas D. Davis, Pittsburgh	1914
John Foster, New Castle	1914
John H. Murray, Punxsutawney	1914
W. Rowland Davies, Scranton	1914
Joseph D. Findley, Altoona	1914
William M. Robertson, Warren	1914
William T. Hamilton, Philadelphia	1914
Levi Jay Hammond, Philadelphia	1914
Frank P. Lytle, Birdsboro	1914
John B. McAlister, Harrisburg	1914
John J. Coffman, Scotland	1914
William T. Williams, Mt. Carmel	1914
George W. Guthrie, Wilkes-Barre	1913
George R. S. Corson, Pottsville	1913
Lowell M. Gates, Scranton	1913
Theodore B. Appel, Lancaster	1913
Americus R. Allen, Carlisle	1913
John C. Gilland, Greencastle	1913
John B. Lowman, Johnstown	1913
George G. Harman, Huntingdon	1913
George D. Nutt, Williamsport	1913
M. Howard Fussell, Philadelphia	1913
Henry D. Jump, Philadelphia	1913
Wilmer Krusen, Philadelphia	1913
Luther B. Kline, Catawissa	1913
A. Wayne Baugh, Paoli	1913
Philip Y. Eisenberg, Norristown	1913

DISTRICT CENSORS.

First District.—Chester County, Charles E. Woodward, West Chester; Delaware County, Daniel W. Jefferis, Chester; Philadelphia County, Milton B. Hartzell, Philadelphia.

Second District.—Bucks County, James N. Richards, Fallsington; Lehigh County, William B. Erdman, Macungie; Monroe County, J. A. Singer, East Stroudsburg; Northampton County, Edgar M. Green, Easton.

Third District.—Berks County, Charles W. Bachman, Reading; Montgomery County, William McKenzie, Conshohocken; Schuylkill County, Arthur B. Fleming, Tamaqua.

Fourth District.—Dauphin County, Hiram McGowan, Harrisburg; Lancaster County, J. Henry Musser, Lampeter; Lebanon County, William M. Guilford, Lebanon.

Fifth District.—Adams County, William E. Wolff, Arendtsville, Cumberland County, Harry A. Spangler, Carlisle; Franklin County, Leslie M. Kauffman, Kauffman; York County, George E. Holtzapple, York.

Sixth District.—Huntingdon County, W. Hardin Sears, Huntingdon; Juniata County, Benjamin H. Ritter, McCoysville; Mifflin County, Alexander S. Harshberger, Lewistown; Perry County, Edward E. Moore, New Bloomfield.

Seventh District.—Bedford County, Edmund L. Smith, Schellburg; Fayette County, Jacob S. Hackney, Uniontown; Somerset County, Charles F. Livengood, Boswell; Westmoreland County, Robert L. Wilson, Jeannette.

Eighth District.—Allegheny County, James W. Macfarlane, Pittsburgh; Greene County, R. Edward Brock, Waynesburg; Washington County, William R. Thompson, Washington.

Ninth District.—Beaver County, Jefferson H. Wilson, Beaver; Lawrence County, Robert G. Miles, New Castle; Mercer County, John M. Martin, Grove City.

Tenth District.—Crawford County, J. Charles McFate, Meadville; Erie County, Peter Barkey, Erie; Warren County, Michael V. Ball, Warren.

Eleventh District.—Elk County, Clarence G. Wilson, St. Marys; McKean County, A. Miner Straight, Bradford; Potter County, Elwin H. Ashcraft, Coudersport.

Twelfth District.—Butler County, Albert Holman, Butler; Clarion County, Robert A. Walker, West Monterey; Venango County, William A. Nicholson, Franklin.

Thirteenth District.—Armstrong County, James G. Allison, McGrann; Indiana County, John B. Carson, Blairsville; Jefferson County, Spencer M. Free, Dubois.

Fourteenth District.—Clinton County, Joseph M. Corson, Chatham Run; Lycoming County, G. Franklin Bell, Williamsport; Tioga County, Lewis Darling, Lawrenceville; Union County, Charles A. Gundy, Lewisburg.

Fifteenth District.—Blair County, William S. Ross, Altoona; Cambria County, William D. Haight, Johnstown; Center County, George H. Woods, Pine Grove Mills; Clearfield County, George B. Kirk, Kylertown.

Sixteenth District.—Bradford County, Charles M. Woodburn, Towanda; Sullivan County, William F. Randall, Dushore; Susquehanna County, John G. Wilson, Montrose; Wyoming County, Herbert L. McKown, Tunkhannock.

Seventeenth District.—Columbia County, Luther B. Kline, Catawissa; Montour County, George A. Stock, Danville; Northumberland County, Harvey M. Becker, Sunbury; Snyder County, Charles N. Brosius, Shamokin Dam.

Eighteenth District.—Carbon County, Jacob G. Zern, Lehighton; Lackawanna County, Herbert D. Gardner, Scranton; Luzerne County, Ernest U. Buckman, Wilkes-Barre; Wayne County, William T. McConvill, Honesdale.

MEMBERS OF THE HOUSE OF DELEGATES ANSWERING TO ROLL CALL.

Allegheny County Society.—James D. Heard, Edward B. Heckel, Henry T. Price, Thomas G. Simonton.

Beaver County Society.—William C. Meanor.

Berks County Society.—Israel Cleaver.

Blair County Society.—Joseph D. Findley, President; Samuel C. Smith.

Bradford County Society.—John E. Everitt, President; George H. B. Terry.

Bucks County Society.—J. Morris Carter.

Cambria County Society.—John B. Lowman.

Carbon County Society.—James B. Tweedle, President; Jacob A. Trexler.

Chester County Society.—Henry Pleasants, Jr.

Clinton County Society.—Allen B. Painter.

Columbia County Society.—Luther B. Kline, Secretary.

Crawford County Society.—Cornelius C. Laffer, Secretary.

Cumberland County Society.—Americus R. Allen.

Dauphin County Society.—Harvey F. Smith, President; John F. Culp, John Oenslager, Jr.

Delaware County Society.—Alexander R. Morton.

Erie County Society.—Judson M. Burt, Secretary.

Fayette County Society.—Thomas B. Echard, President; Calvin H. Elliott.

Franklin County Society.—John J. Coffman, Secretary.

Huntingdon County Society.—John M. Keichline, Jr.

Jefferson County Society.—Norman C. Mills, Secretary.

Lackawanna County Society.—W. Rowland Davies, President; Lowell M. Gates, Lucius C. Kennedy.

Lancaster County Society.—Horace C. Kinzer, Secretary; J. Paul Roebuck, Donald McCaskey.

Lehigh County Society.—George F. Seiberling, President; William H. Hartzell.

Luzerne County Society.—Clarence W. Prevost, President; Alexander G. Fell, Samuel M. Wolfe.

Lycoming County Society.—Edward Lyon, President; J. W. Albright.

McKean County Society.—James Johnston, Secretary; Persis R. Straight.

Mifflin County Society.—Robert T. Barnett.

Monroe County Society. Charles S. Logan.

Montgomery County Society.—Harry H. Whitcomb, Secretary; David Nathan.

Northampton County Society.—William P. Walker.

Northumberland County Society.—Charles E. Allison.

Philadelphia County Society.—L. Jay Hammond, President; Herman B. Allyn, J. Montgomery Baldy, Edward J. G. Beardsley, L. Napoleon Boston, Wilmer Krusen, John D. McLean, G. Morris Piersol, David Riesman, John B. Roberts, W. Egbert Robertson, Alice M. Seabrook, John B. Turner, Mitchell P. Warmuth, William M. Welch.

Schuylkill County Society.—George R. S. Corson, President; Gouveneur H. Boyer.

Sullivan County Society.—Silas D. Molyneux, President.

Susquehanna County Society.—A. Stryker Blair, President; Dever J. Peck.

Warren County Society.—Robert B. Mervine.

Wayne County Society.—Frederick A. Lobb.

Westmoreland County Society.—Myers W. Horner, Bert Haughwout.

Wyoming County Society.—William W. Lazarus.

York County Society.—George E. Holtzapple.

James Tyson, President.

Nonvoting Members.

C. L. Stevens, Secretary; George W. Wagoner, Treasurer; Thomas D. Davis, Alem P. Hull, W. Albert Nason, William L. Estes, George G. Harman, David H. Strickland, Frederick L. VanSickle, Trustees.

MEMBERS IN ATTENDANCE AT THE SESSION IN SCRANTON, SEPTEMBER 23, 24, 25 and 26, 1912.

Section on Medicine.

Allegheny County Society.—S. C. McGarvey, Bridgeville; William B. Ray, Glenshaw; L. F. Ankrim, William H. Cameron, Thomas D. Davis, James D. Heard, Lawrence Litchfield, Elizabeth L. Martin, George W. McNeil, Henry T. Price, Thomas G. Simonton, William Charles White, Edwin Zugsmith, Pittsburgh; Henry F. Fischer, Springdale.

Berks County Society.—Israel Cleaver, Reading.

Blair County Society.—Samuel C. Smith, Hollidaysburg.

Bradford County Society.—John E. Everitt, Sayre; Wilson F. Harshberger, New Albany; T. Ben Johnson, Jr., Towanda.

Bucks County Society.—J. I. Cawley, Springtown; James Collins, Bristol.

Cambria County Society.—Louis H. Mayer, Johnstown.

Carbon County Society.—Jacob A. Trexler, Lehighton; A. Jay Davis, Nesquehoning.

Center County Society.—Harvey S. Braucht, Spring Mills; Peter Hoffer Dale, State College.

Chester County Society.—Henry Pleasants, Jr., West Chester.

Clinton County Society.—Joseph M. Corson, Chatham Run.

Columbia County Society.—George E. Follmer, William T. Vance, Orangeville.

Crawford County Society.—Margaret B. Best, Cornelius C. Laffer, Meadville.

Cumberland County Society.—John W. Bowman, Lemoyne.

Dauphin County Society.—David S. Funk, Hugh Hamilton, John B. McAlister, John Oenslager, Jr., Thomas H. A. Stites, Harrisburg.

Delaware County Society.—A. Parker Hitchens, Glenolden; Alexander R. Morton, Morton.

Erie County Society.—Judson M. Burt, Erie.

Fayette County Society.—Calvin H. Elliott, Brownsville.

Franklin County Society.—John J. Coffman, Scotland.

Huntingdon County Society.—George G. Harman, Huntingdon; Charles B. Bush, Orbisonia; J. M. Keichline, Jr., Petersburg.

Indiana County Society.—Luther S. Clagett, Albert T. Rutledge, Blairsville.

Jefferson County Society.—Norman Clyde Mills, Big Run.

Lackawanna County Society.—William VanDoren, Archbald; Mark L. Bailey, John A. Kelley, Fred F. Price, J. J. Thompson, Carbondale; Thomas A. Rutherford, Clarks Summit; Harmon O. Baldwin, Charles A. Zeller, Dalton; Charlotte DeMont, Myles A. Gibbons, M. D. Snyder, Dunmore; Stanley H. Rynkiewicz, Edwardsville (Luzerne Co.); Isaac S. Graves, Jermyn; J. W. Knedler, Moscow; W. W. Jenkins, Olyphant; Milton I. Penticost, Peckville; Edith Barton, George B. Beach, Benjamin G. Beddoe, William F. Bennett, Herman Bessey, Fred J. Bishop, John J. Brennan, Carl G. Brown, Frank G. Bryant, J. D. Butzner, Daniel A. Capwell, P. F. Carlucci, A. J. Connell, Philip J. Davies, F. Whitney Davis, William J. L. Davis, John P. Donahoe, Fred M. Davenport, E. Deantonio, Percy DeLong, William K. Dolan, Charles Falkowsky, Jr., Albert S. Freedman, Lewis Frey, Louis H. Gibbs, Isaac Goodman, Patrick J. Heston, F. P. Hollister, Thomas W. Kay, W. E. Keller, Lucius C. Kennedy, Louis W. Kohn, John Kulczyski, James D. Lewis, George G. Lindsay, James A. Manley, Peter C. Manley, Edward F. McGinty, Patrick F. Moylan, Connell E. Murrin, Nelson E. Newbury, John E. O'Brien, W. A. Paine, Welland A. Peck, James S. Porteus, L. H. Raymond, James L. Rea, Joseph C. Reifsnyder, James P. H. Ruddy, Irwin W. Severson, Richard C. Shepherd, Harry F. Smith, Robert M. Toll, James J. Walsh, John J. Walsh, John D. Wilson, Scranton.

Lancaster County Society.—H. C. Kinzer, Lancaster.

Lehigh County Society.—J. Treichler Butz, William H. Hartzell, Allentown; W. A. Backenstoe, Emaus.

Luzerne County Society.—W. B. Foss, Ashley; Marshall C. Rumbaugh, Dorranceton; William C. Gayley, Hazleton; Homer B. Wilcox, Kingston; Samuel P. Mengel, Parsons; M. C. Gaughan, Harold J. Gibby, W. L. Hartman, August G. Hinrichs, Pittston; H. L. Whitney, Plymouth; Henry M. Neale, Upper Lehigh; N. Ray Myers, Wanamie; C. L. Santee, Wapwallopen; George R. Andreas, Delbert Barney, G. A. Clark, William J. Davis, Charles Long, Charles H. Miner, Charles T. C. Nurse, John A. Person, J. Irving Roe, Nathaniel Ross, Louise M. Stoeckel, Sarah D. Wyckoff, Wilkes-Barre; Charles P. Knapp, A. B. Smith, Wyoming.

Lycoming County Society.—Sidney Davis, Milton, (Northumberland Co.); Alem P. Hull, Montgomery; Joseph W. Albright, Muncy; Horace G. McCormick, Clarence E. Shaw, Charles W. Youngman, Williamsport.

McKean County Society.—James Johnston, Persis R. Straight, Bradford.

Mifflin County Society.—Robert T. Barnett, Lewistown.

Montgomery County Society.—Herbert A. Arnold, Ardmore; David Nathan, Harry H. Whitcomb, Norristown.

Montour County Society.—Hugh B. Meredith, Danville.

Monroe County Society.—John H. Stearns, Delaware Water Gap; Samuel W. L'Amareaux, Esther W. Gulick, Eugene H. Levering, Stroudsburg; George H. Rhoads, Tobyhanna.

Northampton County Society.—Walter D. Chase, Bethlehem; Edgar M. Green, W. Gilbert Tillman, Frederick E. Ward, Easton; Charles E. Beck, Portland.

Northumberland County Society.—Charles E. Allison, Elysburg; Joseph E. Ratajski, Mt. Carmel; M. J. Flanagan, Shamokin; S. B. Geise, Sunbury.

Perry County Society.—Lenus Carl, Newport.

Philadelphia County Society.—Samuel G. Dixon, Bryn Mawr, (Montgomery Co.); Albert C. Buckley, Frankford; Charles J. Hunt, B. Franklin Royer, Harrisburg, (Dauphin Co.); Herman B. Allyn, James M. Anders, Edward J. G. Beardsley, L. Napoleon Boston, Myer Solis-Cohen, Walter S. Cornell, Frances X. Dercum, Clifford B. Farr, Francis A. Faught, M. Howard Fussell, Samuel P. Gerhard, Alfred Gordon, Alfred Hand, Jr., Hobart A. Hare, Francis B. Jacobs, Henry D. Jump, Frank C. Knowles, Henry R. M. Landis, Harry Lowenburg, James H. McKee, John D. McLean, Charles K. Mills, William S. Newcomet, George W. Norris, George E. Pfahler, George M. Piersol, Edward G. Rhoads, David Riesman, W. Egbert Robertson, Stuart C. Runkle, Joseph Sailer, R. H. Spangler, Alice W. Tallant, James Tyson, Theodore H. Weisenburg, William M. Welch, Philadelphia.

Schuylkill County Society.—G. O. O. Santee, Cressona; David Taggart, Frackville; Gouveneur H. Boyer, Alexander L. Gillars, Pottsville.

Sullivan County Society.—Silas D. Molyneux, Sayre, (Bradford Co.).

Susquehanna County Society.—Alpheus B. Fitch, Factoryville (Wyoming Co.); A. S. Blair, Hallstead; Edward R. Gardner, Montrose; Abram E. Snyder, New Milford; Samuel Birdsall, Dever J. Peck, Susquehanna.

Warren County Society.—Robert B. Mervine, Sheffield.

Washington County Society.—Edgar M. Hazlett, Washington.

Wayne County Society.—H. Cummings White, Ariel; R. W. Brady, Honesdale.

Wyoming County Society.—Kennard J. French, Factoryville; G. Philip Saxer, Fleetville (Lackawanna Co.); William B. Beaumont, Laceyville; William W. Lazarus, Wilkes-Barre (Luzerne Co.).

York County Society.—James C. May, Manchester; Isaac C. Gable, George E. Holtzapple, York.

Section on Surgery.

Allegheny County Society.—Otto C. Gaub, Raleigh R. Huggins, Willet P. Hughes, George C. Johnston, Henry P. Kohberger, Evan W. Meredith, David Silver, John D. Singley, Pittsburgh.

Beaver County Society.—Jefferson H. Wilson, Beaver.

Blair County Society.—Joseph D. Findley, Altoona; W. Albert Nason, Roaring Spring.

Bradford County Society.—Donald Guthrie, Sayre.

Cambria County Society.—John B. Lowman, John L. Sagerson, G. W. Wagoner, Johnstown.

Carbon County Society.—James B. Tweedle, Weatherly.

Chester County Society.—Elwood Patrick, Joseph Scattergood, West Chester.

Clinton County Society.—Francis P. Ball, Lock Haven.

Columbia County Society.—Charles T. Steck, Berwick; John W. Bruner, Bloomsburg; Luther B. Kline, Catawissa; Heister V. Hower, Mifflinville.

Cumberland County Society.—Americus R. Allen, Carlisle.

Dauphin County Society.—George R. Moffitt, Harvey F. Smith, Harrisburg.

Delaware County Society.—Harry M. Armitage, Walter E. Egbert, Chester.

Erie County Society.—D. H. Strickland, Elmer G. Weibel, Erie.

Fayette County Society.—Thomas B. Echard, Connellsville; S. C. Dowds, Mt. Braddock.

Huntingdon County Society.—Howard C. Frontz, Huntingdon.

Lackawanna County Society.—Thomas Monie, Archbald; James G. Harper, W. J. Lowry, Murvington E. Malaun, John S. Niles, Carbondale; Harry E. Jones, J. J. O'Connor, Dickson City; W. Warren Myer, John J. Timlin, Old Forge; Rossiter J. Lloyd, Frederick L. VanSickle, Olyphant; John B. Grover, Peckville; Adam Stegner, Rendham; Harry W. Albertson, T. L. Alexander, Arthur H. Bernstein, Reed Burns, W. Rowland Davies, E. W. Downton, Daniel Webster Evans, Samuel W. Fox, Herbert D. Gardner, Lowell M. Gates, David J. Jenkins, Thomas G. Killeen, Charles B. Noecker, M. J. Noone, P. John O'Dea, Ernest L. Peet, Thomas B. Rodham, Elias G. Roos, Addison W. Smith, Edgar Sturge, Charles E. Thomson, Isaac R. Vincent, Joseph A. Wagner, J. M. Wainwright, Russell T. Wall, J. Norman White, Morgan J. Williams, Albert J. Winebrake, B. B. Wormser, Scranton; Albert E. Hager, Taylor; James F. Jacob, Throop.

Lancaster County Society.—Donald McCaskey, Witmer.

Luzerne County Society.—A. F. Dougherty, Thomas A. James, Ashley; J. C. Fleming, Dallas; George L. Hoffman, Forty Fort; Walter Lathrop, Hazleton; Lewis Edwards, Alfred W. Grover, Charles L. Shafer, Kingston; John J. McHugh, Parsons; Joseph A. Jennings, John B. Mahon, John H. Newth, C. W. Prevost, Pittston; Maurice B. Ahlborn, Allan C. Brooks, William H. Corrigan, Walter Davis, Henry W. Deibel, Charles H. Ernst, Alexander G. Fell, Stanley Freeman, James W. Geist, Herbert B. Gibby, George W. Guthrie, John T. Howell, G. T. Matlack, William J. McGuire, E. L. Meyers, G. M. NeuBurger, Emrys Richards, Lawrence A. Sheridan, Walter S. Stewart, Richard P. Taylor, Raymond L. Wadhams, Earl E. Wagner, Samuel M. Wolfe, Wilkes-Barre.

Lycoming County Society.—Charles C. Cooner, Picture Rocks; G. Franklin Bell, Harry J. Donaldson, Edward Lyon, G. D. Nutt, Williamsport.

Monroe County Society.—Charles S. Logan, Stroudsburg.

Montgomery County Society.—Joseph K. Weaver, Henry C. Welker, Norristown.

Northampton County Society.—David H. Keller, Bangor; William L. Estes, D. K. Santee, William P. Walker, South Bethlehem.

Northumberland County Society.—Robert B. McCay, Sunbury.

Philadelphia County Society.—Alex. R. Craig, Chicago, Ill.; George D. Morton, Honey Brook (Chester Co.); Brooke M. Anspach, W. Wayne Babcock, John M. Baldy, Henry D. Beyea, William L. Clark, Gwilym G. Davis, George M. Dorrance, Joseph D. Farrar, John M. Fisher, John H. Gibbon, Nathaniel Ginsburg, Levi Jay Hammond, Edward B. Hodge, John Howard Jopson, Floyd E. Keene, Wilmer Krusen, Ernest Laplace, Christian B. Longenecker, Hiram R. Loux, Edward Martin, Charles F. Mitchell, Richard C. Norris, Robert F. Ridpath, John B. Roberts, John S. Rodman, William J. Roe, J. Torrance Rugh, Alice M. Seabrook, George Erety Shoemaker, T. Turner Thomas, M. P. Warmuth, DeForest P. Willard, James E. Young, Philadelphia.

Snyder County Society.—Dwight E. Long, McKees Half Falls; Edward W. Tool, Freeburg.

Susquehanna County Society.—John G. Wilson, Montrose.

Washington County Society.—R. Vance Stewart, Monongahela.

Wayne County Society.—Frederick A. Lobb, Hawley; Oscar J. Mullen, Hamlin; William A. Stevens, Scranton (Lackawanna Co.).

Westmoreland County Society.—M. W. Horner, Mount Pleasant; Bert Haughwout, Derry.

Section on Eye, Ear, Nose and Throat Diseases.

Allegheny County Society.—William W. Blair, Edward B. Heckel, James H. McCready, M. D. Ritchie, Stanley S. Smith, Edward Stieren, Pittsburgh.

Beaver County Society.—William C. Meanor, Beaver.

Berks County Society.—Fremont W. Frankhauser, Reading.

Bradford County Society.—Cyrus Lee Stevens, Athens; G. H. B. Terry, Wyalusing; Nelson S. Weinberger, Sayre.

Bucks County Society.—J. Morris Carter, Eddington.

Cambria County Society.—H. M. Stewart, Ehrenfeld; Clarence M. Harris, Johnstown.

Carbon County Society.—Clinton J. Kistler, Lehighton.

Clearfield County Society.—G. E. Mauk, Woodland.

Columbia County Society.—John H. Bowman, Berwick; Henry Bierman, Bloomsburg.

Dauphin County Society.—John F. Culp, Harrisburg.

Delaware County Society.—Walter Webb, Swarthmore.

Huntingdon County Society.—William Hardin Sears, Huntingdon.

Lackawanna County Society.—U. Grant Anderson, Carbondale; Leonard G. Redding, Dunmore; John C. Bateson, J. B. Corser, F. A. Cross, G. Edgar Dean, Clarence L. Frey, George U. Huber, Byron H. Jackson, Gilbert D. Murray, Walter M. Reedy, John I. Robison, John J. Sullivan, Jr., Scranton.

Lancaster County Society.—J. Paul Roebuck, Lancaster.

Lebanon County Society.—Samuel Z. Shope, Harrisburg (Dauphin Co.).

Lehigh County Society.—George F. Seiberling, Allentown.

Luzerne County Society.—John R. Dyson, Edgar B. Doolittle, Hazleton; John E. Scheifly, Kingston; James J. King, New York City; Ernest U. Buckman, George W. Carr, O. F. Kistler, N. Louis Schappert, Lewis H. Taylor, Benedict J. Wetherby, Wilkes-Barre.

Montgomery County Society.—Howard F. Pyfer, Norristown.

Montour County Society.—Charles B. Mayberry, Retreat (Luzerne Co.).

Northumberland County Society.—Harvey M. Becker, Sunbury.

Philadelphia County Society.—George M. Coates, Thomas R. Currie, J. Leslie Davis, Erwin H. Erney, Clarence P. Franklin, Herbert M. Goddard, George W. Mackenzie, George M. Marshall, Edwin B. Miller, William Nichols, Charles A. O'Reilly, Luther C. Peter, William Campbell Posey, Wendell Reber, Samuel D. Risley, Ross Hall Skillern, John B. Turner, William Zentmayer, Philadelphia.

Schuylkill County Society.—George R. S. Corson, Pottsville; Henry M. Wasley, Shenandoah; Frederick B. Harding, Tamaqua.

Washington County Society.—Frederick C. Stahlman, Charleroi; John B. McMurray, Washington.

Wayne County Society.—A. B. Stevens, Scranton (Lackawanna Co.); Edward O. Bang, Sarah Allen Bang, South Canaan.

Invited Guests.

R. Tunstall Taylor, Baltimore, Md.; Samuel Robinson, Boston, Mass; F. Park Lewis, Buffalo, N. Y.; John E. Weeks, New York City; Francis Fisher Kane, Esq., John H. Musser, Jr., J. E. Sweet, R. G. Torrey, Philadelphia.

Delegates from the Medical Society of New Jersey.

Alexander Armstrong, White Haven; Edward J. Porteus, Atlantic City, N. J.

COUNTY SOCIETY REPORTS.

Reports should be necessarily brief presentations of scientific facts and professional news. To insure publication these should be received within fifteen days from date of meeting, although it is sometimes necessary to hold over some of them for want of room. (See Journal, March, 1910, p. 438.)

MEETING OF THE FOURTH CENSORIAL DISTRICT AT HARRISBURG.

The ninth annual meeting of the Fourth Censorial District, Lancaster, Lebanon and Dauphin Counties, was held September 17, at the Harrisburg Country Club.

About seventy-five members gathered about noon when luncheon was served on the spacious porches, after which a base ball team from the Dauphin County Society challenged the members from the Lancaster and Lebanon County Societies. After an exciting game, which was umpired very impartially by the genial Dr. Hiram McGowan of Harrisburg, the score was announced 20 to 2 in favor of Dauphin County. Others indulged in golf, tennis, etc.

At 3:30 Dr. J. B. McAlister of Harrisburg, president, called the business meeting to order and, after transacting the business presented, it was decided to be the guests of the Lancaster County Society next year, at a time and place to be decided upon later.

The members then adjourned to the dining hall on the second floor, where a sumptuous dinner was served, at the close of which Dr. McAlister, acting as toast-master, introduced as the guest of honor, Dr. Samuel G. Dixon, who delivered a short but exceedingly interesting address in which he referred particularly to the gratifying results obtained in the use of larger initial doses of diphtheria antitoxin. When the Department of Health first began the free distribution of antitoxin the percentage of death was 42; after the general use of doses of 3000 units it fell to 8; since they have discontinued issuing the smaller doses and are using 5000 units as an initial dose the mortality has fallen to 4.33.

Dr. Hugh Hamilton urged organization and coöperation in the profession.

Dr. W. F. Klein gave an address on the past and present of our meetings.

Dr. J. M. J. Raunick, health officer of Harrisburg, spoke of the work as found by their board and of how it intended in the future to follow details much closer.

Dr. D. McCaskey then responded for the Lancaster representation.

Dr. W. Douglass, milk commissioner of Harrisburg, referred to the problems as they present themselves to his board and how they are met.

Dr. McAlister then introduced Dr. J. Henry Musser of Lancaster County, the newly elected president who, in a few well chosen remarks, accepted the honors conferred upon him, when the meeting adjourned.

D. W. C. Laverty, Reporter.

BEAVER—September.

The Beaver County Medical Society met in Rochester, September 12, at 3:30 p.m., with Dr. G. S. Shugert presiding. After routine business a paper on "Diphtheria" was read by Dr. J. J. Allen, who emphasized the early and high dosage of antitoxin in all suspected cases even if diagnosis were doubtful, as no harm would result. He also emphasized the need of systemic treatment during and following an attack of diphtheria and advised against early use of stimulatives (unless patient's heart was abnormal) and free use of stimulatives in later stage of attack. General discussion followed. The danger of infections from nasal and pharyngeal discharges for many weeks beyond the subsiding of acute attacks and the need of negative cultures before lifting quarantine was brought out. The absence of a laboratory in Beaver County has retarded the work in contagious diseases. Physicians were especially advised to warn their patients of the sequelæ, such as nephritis, paralysis and heart lesions, which may result from diphtheria, and to explain to them that these result from the toxemia of the disease and not from antitoxin.

Dr. H. W. Bernhardy, in a paper on "Tonsillitis," laid special emphasis on local applications early in the acute attack, together with free elimination. He stated that local applications frequently and properly applied, in the chronic type, would often result in a disappearance of the condition.

General discussion brought out that rheumatism, a frequent sequela, should be considered and that antirheumatics should be given during and following an attack of tonsillitis.

Dr. C. E. Trainor of Beaver Falls was received as a member and Dr. Harry B. Jones of Woodlawn was proposed for membership.

Margaret I. Cornelius, Reporter.

CHESTER—September.

The regular meeting of the Chester County Medical Society was held September 10, at the Chester County Hospital, West Chester. One new member was elected and an application for membership was received.

The subject for discussion was the Differential Diagnosis of Acute Abdominal Affections.

In a paper on "Acute Appendicitis, Ileus. Gastric and Duodenal Ulcer" Dr. Elwood Patrick spoke of the importance of early diagnosis in acute appendicitis, the proper use of knife at the proper time being essential. Three cardinal symptoms are pain, tenderness and rigidity. Temperature varies and is not so important. Dr. Patrick has had a number of cases with practically no elevation, nausea and vomiting present at times, but this can not be relied upon in making a diagnosis. Leukocytosis is a very important sign and he advises count of white blood cells. The paper was discussed by Dr. Sharpless who agreed with Dr. Patrick that temperature was often misleading; he also emphasized the importance of blood count.

Dr. Edward Kerr cited a case of high leukocytosis; on operation no pus formation had been found but all evidences of an acute infection were present.

"Cholecystitis, Subphrenic Abscess and Acute Pancreatitis" was presented by Dr. Henry Pleasants and discussed by Dr. H. Y. Pennell.

"Hepatic and Renal Colic Very Important Conditions" was discussed by Dr. W. M. Betts.

After some discussion it was decided to hold a public meeting in November; the subject of "Eugenics" will be discussed.

D. Edgar Hutchison, Reporter.

DELAWARE—June, September.

The meeting of the Delaware County Society was held at the County Home, Lima, June 13, at 3:30 p.m. A paper on "Some of the More Common Postoperative Complications" was read by Dr. E. A. Campbell, and was followed by a general discussion.

At the meeting of September 12, held at Rosedale Inn, Essington, a pleasant feature of the occasion was a reed bird dinner. Dr. J. L. Forward described the Sweedish settlements along the Delaware and gave a history of the yellow fever outbreak in 1870 when the fever was brought from Jamaica by the brig Hope.

Walter E. Egbert, Reporter.

LANCASTER—September.

The meeting of the Lancaster City and County Medical Society was held September 4 at 2 p.m. with President Rohrer and forty-five members present.

Dr. E. H. Miller of Philadelphia, in a paper on "Bacterins and Serums," gave the latest advances in serum therapy. A vote of thanks was tendered him.

Dr. Donald McCaskey reported a case of felon, treated by Bier's hyperemic method, which improved wonderfully in forty-eight hours and was cured in nine days.

On motion of Dr. John L. Atlee the Board of Managers of the Lancaster County Fair Association was requested to refund the money paid them for space by the Antivivisection Society, and to reject its display.

Walter D. Blankenship, Reporter.

LEBANON—September.

The meeting of the Lebanon County Medical Society was held in the Grand Jury room, Court House, September 10.

A paper on "Superstition in Medicine" was read by Dr. George R. Pretz, who traced the history of superstition from the early Roman and Greek history down to the present day, discussing the close relation between the superstition centuries ago and of the present day, and the influence of religion and philosophy upon superstition. The author believes that the more the natural sciences are taught and acknowledged the less will become the tendency to superstitious deliberations. Dr. Guilford in opening the discussion related many interesting examples of local medical superstitions.

George R. Pretz, Reporter.

LUZERNE—September.

The regular meeting of the Luzerne County Medical Society was held September 11.

Dr. Levi J. Hammond of Philadelphia, in a paper on "A Consideration of the Surgical Pathology of Chronic Constipation" said that the surgical problem involved in chronic constipation concerned itself with mechanical factors which act either by inducing local organic changes or general disease of the lower walls. The mechanical causes of chronic constipation may act either intermittently or continuously, depending upon the seat of the obstruction, and may be the result of the matting together of the limbs of the colon by adhesions, marked kinking of the colon at the hepatic flexure or an exaggeration of the natural kinking of the splenic flexure, cholelithiasis, with the associated adhesions of the gall bladder to the hepatic flexure and omentum, adhesions of the cecum, appendix and uterine adnexa, and atresia and displacement of the sigmoid, all common factors in the production of enteroptosis, and a resulting general stasis. Symptoms of toxemia are soon added to those of obstruction. The cecum, when displaced and overloaded, causes an impairment in the function of the whole intestinal tract. Imperfect development of the muscles of the abdominal wall and, in women, the constriction of the waist by corsets augment the condition.

A group of symptoms, which should never be confused with those due to a mere functional disturbance of the digestion the result of errors of diet, arises as a result of this mechanical obstacle to free intestinal drainage, such as irregular distention, localized tenderness at or about the neighborhood of the morbid condition, irregular peristalsis, pain often followed by nausea or vomiting, and not infrequently a mass of agglutinated intestinal coils, tumors or displacement of the hollow viscera or other organs can be distinctly outlined on palpation. The breath of these patients is usually very offensive, their bodies have a peculiar smell, which is especially marked about the various folds; a peculiar dissecting-room odor emanates from their skin, especially marked when the abdomen is opened. There is usually a mental depression, constant lassitude especially leg tiredness, drowsiness, spell of faintness, irritability of temper, often some loss of flesh, and a spurious diarrhea will sometimes be present; a tendency to pigmentation especially about the skin folds is commonly observed.

The treatment of such a case is distinctly surgical, and should be palliative only in so far as is necessary to determine the character and extent of pathology present. In the majority of cases permanent benefit may be secured by the correction of malformation and faulty positions, the division of bands, the breaking up of adhesions, the removal of tumors, the replacement of displaced viscera and removal of cicatricial strictures. Rarely is the operation of colopexy, advocated by Lane, required to restore proper drainage to the bowel which has been hopelessly displaced, angulated and dilated from long-standing ptosis.

Herbert B. Gibby, Reporter.

LYCOMING—September.

The regular meeting of the Lycoming County Medical Society was held at the Williamsport Hospital, September 13.

Dr. Ella N. Ritter, in a paper on the "Significance of Preclimacteric Hemorrhage," dwelt largely on the physician's duty regarding these cases and the necessity of examination and close obervation.

Dr. G. F. Bell followed by a talk on "Emergency Surgery" with special reference to trauma. He illustrated a case of a bullet wound of the knee, the bullet first being located by means of the *x*-ray near the joint and the next day in the joint itself, the change of position being due to the patient's using the leg. He advocated thorough opening of all knee-joint injuries which are apt to be infected and the cleansing of them as any other cavity is cleansed. He claims that there is but little danger of ankylosis if it is properly done. As to lacerations of the scalp, he never completely closes these wounds but always leaves free drainage. A search should be made for depressed fractures, fissures or injuries to the outer table of the skull, as the chief danger of head wounds depends on the presence of these and the sealing up of an infected scalp wound. He exhibited a patient, a railroad brakeman, on whom a Chopart's amputation of the foot had been performed, and gave it as his opinion that many plantar flaps slough in spite of all the surgeon can do; also, that the tendon Achilles should be severed so that the subject can step flat on the remaining portion of the sole of the foot and not on the toe. He had done this in the patient shown, and the man could both extend and flex his foot.

Dr. J. R. Rankin gave a talk on "Radium, Its Discovery, Early History and Present Status." He gave his experiences in administering it in a case of multiple neuritis and claimed it had a marked ameliorating effect on the pain. He also exhibited a patient having psoriasis and chronic rheumatism of many years' standing, to whom he had given radium solutions. He expressed some uncertainty as to whether the cleaning off of the skin was due to the radium or to the alterative remedy which was given the patient just previous to the radium treatment. T. K. Wood, Reporter.

PHILADELPHIA—September.

The meeting of the Philadelphia County Medical Society was held September 18 at 8:30 p. m., President Hammond in the Chair.

"Treatment of Lateral Curvature of the Spine" was read by Dr. J. Torrance Rugh. The cure of fixed scoliosis has been accomplished by Dr. E. G. Abbott of Portland, Me., by pressure applied to the chest in a manner opposite to that previously employed by orthopedists. Abbott was able to produce a typical scoliosis in a subject by flexing the body, making pressure laterally and anteriorly and fixing in a cast, and the same principle is involved in the correction of such a deformity. The patient exhibited is twelve years of age and she suffered from a fixed right dorsal scoliosis. Two weeks ago she was placed in the Abbott frame after the proper adjustment of pads, and a plaster jacket applied. Every third or fourth day a pad of felt has been inserted under the cast anteriorly to make continuous pressure, and by her inspiratory efforts the concave side of the ribs has been converted into a convexity, and in another week she will have been entirely overcorrected. This jacket will then be removed, an impression jacket will be applied and removed and another applied like the present one. A celluloid jacket will then be made which will maintain her in the overcorrected position until by the use of exercises she has regained the power to maintain herself in the erect posture, which will require about six months. The principal features of the treatment are application of the jacket in the overcorrected position, maintenance of pressure, forced inspiratory efforts and ample room in the jacket for overcorrection.

"Clinical Innovations at the Recent Richmond Meeting of the American Electrotherapeutic Association" was read by Dr. A. B. Hirsh. Investigation of electrotherapeutics has definitely placed electric treatment on a higher plane than ever before. The scientific status of the program at Richmond was notable. Dr. William Benham Shaw of New York City discussed acute anteropoliomyelitis treated along these lines. The new pathology of the condition being one of vascular stasis of the membranes and of the cord tissue proper, by using the static wave current it is possible to squeeze out the congestion and infiltration from the inflamed tissues and thus secure marvelously favorable results. The patient exhibited at the meeting, a well developed girl of nine years, was first seen four years ago when the disease was in the very acute stage. The static wave current was applied at once by a long metal electrode along the spine and the applications continued two and three times each twenty-four hours for nearly a week when the acute symptoms had practically disappeared. The child to-day has limbs of perfectly equal measurement, the only abnormality being a very slight drop of one of the toes.

Dr. Morse of Boston spoke of success in treating splenic congestion by diathermy and the static wave current.

Dr. deKraft of New York spoke of relieving localized arterial spasm by the d'Arsonval current.

Dr. Rosa Wiss of Meridian, Miss., read details of a marked case of chronic articular rheumatism which she had cured by persistent cataphoresis with salicylates.

Dr. William Seaman Bainbridge of New York City demonstrated treatment of terminal cases of malignant disease. After as complete surgical removal as possible of the malignant growth he sterilizes the base of the wound by driving in high frequency sparks from the coil, the spark as much as fourteen inches long. A compressed current of cold air accompanies these sparks to prevent burning. Although not yet prepared to speak as to the ultimate value of the method in these desperate cases, the men doing the work in Paris and New York have very large experience and are favorably impressed with the delay of recurrence in the patients treated.

Dr. Frauenthal of New York spoke of successful brief treatment of acute gout by cataphoresis with fluid extract of colchicum.

Dr. Tice of Roanoke, Va., spoke of marked success from the use of the violet ray and other high frequency currents in hay fever and various nasopharyngeal conditions.

Dr. Yates of Madison, Florida, reported cases of chronic catarrhal otitis media treated with high frequency current in which the vacuum electrode was applied to the ear and to the nasopharynx. The hearing, although not equal to that of full health, was decidedly improved.

Dr. Hirsh referred to the paper upon the treatment of surgical tuberculosis by ionization by Dr. Massey. The cases were given in detail and with striking results.

Dr. Aaron Brav, in clinical reports: In the domain of ophthalmology there is one disease that bears a close resemblance to hay fever. I refer to spring catarrh or vernal conjunctivitis. Like hay fever it appears at a definite period in the summer season and recurs annually. Etiologically it is probably caused by some germs carried by the summer plants. Three distinct types are recognized: The palpebral, bulbar, and corneoscleral. All, however, have a common symptom, intense itching. The palpebral type shows a proliferative enlargement of the conjunctival tissues. There are large flat follicles on the upper conjunctiva. Some are very hard, cartilaginous, in consistency and appear like polypoids with small pedicles and can easily be removed with a curved scissors. The bulbar type shows itself in a brownish gray discoloration of the bulbar conjunctiva with one or two follicles at the inner upper conjunctival fold. The corneoscleral type appears as a circumcorneal hyperplasia of the corneoscleral junction overlapping the corneal tissue. The chief symptoms are the itching, which is very annoying, and the discharge. The character of this discharge differs from all other conjunctival inflammations. It is not mucopurulent but of a soft gelatinous nature. Patients usually demand relief from the severe itching and I find that a five per cent. solution of boroglycerid instilled every three hours is the best way to give the desired relief. Patients are usually free from annoyance during the winter season but the trouble recurs in the coming spring. The condition is often diagnosed as trachoma. It is a self-limited disease having no sequelæ.

Dr. J. Torrance Rugh: Cases of arthritis deformans are very diverse in their etiology but usually there is a septic focus in some part of the body which is responsible for the toxins which cause the joint irritations. In the involvement of a single joint, however, especially of the lower extremity, we must not lose sight of the traumatism of function as a causative factor. In a case recently seen both knees were involved and the *x*-ray showed a typical lipping of the articular edges of the joints as seen in arthritis deformans. There was present, however, marked weakness of both feet with slight malposition and a history of overuse of the feet for a period of years. Correction of the foot condition entirely relieved the trouble in the knees. This indicates that while the importance of the local focus of infection is not to be minimized, other factors, such as traumatism of function, must not be neglected.

Dr. A. B. Hirsh: As Dr. Rugh has stated, we should never lose sight of the importance of searching for a septic focus in dealing with arthritis deformans. The majority of these cases have their origin in intestinal intoxication, usually in intestinal torpor. In the limited number of cases under treatment in my hands colonic flushing with the Wales tunneled rectal bougie daily for as long as ten days or two weeks has been employed. The patient is then brought to the office and the radiant light used, driving the rays into the tissues. This increases the local blood supply and intestinal nutrition, bringing about more nearly normal bowel action. Besides minimal use of proteid foods, such patients should also have the application of the static wave current, a large metal plate being used over the upper part of the abdomen, and a moderate spark gap employed. The deformed joints should receive static spark treatment for variable periods of time. Marked improvement is thus obtained.

Dr. Herman B. Allyn: About two years ago I saw a girl twelve years old who had a moderately severe attack of arthritis deformans for a number of months and for the most part of the time was obliged to lie upon a cot or in a steamer chair, suffering great pain in the affected joints. After nearly a year of treatment she recovered sufficiently to return to school. Shortly afterwards she had an attack of tonsillitis of the pseudomembranous type, due to a pure culture of the staphylococcus aureus. Within a short time of the convalescence from the tonsillitis all the joint symptoms returned. The child was given bacterin from the staphylococcus aureus and she recovered completely and very promptly. While the disease is of obscure etiology there is a strong tendency to regard it as infectious in origin. I have also used the staphylococcus aureus bacterin in two or three other cases with benefit, but not with the marked results which characterized the first case.

H. C. Carpenter, Reporter.

In every case of disease, whether its seat be in the head, trunk or extremities, we ought to examine the suspected part freed from covering or at least from every species of covering that can impede the necessary examination—always by the hand, and often by the eye; and whereever the case is at all doubtful, we must endeavor to overcome the repugnance of our patient to the measure however great this may be, and however natural and proper may it feel to be, in certain individuals.—John Forbes, M. D., 1823.

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ADDRESS.

ADDRESS OF THE CHAIRMAN OF THE SECTION ON MEDICINE.

BY CHARLES H. MINER, M.D.,
Wilkes-Barre.

(Delivered in the Section on Medicine of the Medical Society of the State of Pennsylvania, Scranton Session, September 24, 1912.)

The clinical study of diseases of the circulation has, during the last few years, made unusual advances. The teachings of Dr. James Mackenzie and other members of the English school have done much to increase our knowledge and have given great impetus to original research in this particular branch of medicine. A number of new and important methods of investigation have been introduced including (1) the method of reading the blood pressure by the auscultatory rather than by the visual method; (2) the methods of simultaneous graphic registration of the apex beat, the arterial pulse and the venous pulse; (3) the methods of determining the exact size and movements of the heart and great vessels by means of Röntgen rays; (4) by the use of the Einthoven string galvanometer, the differences in electrical potential, which occur in different parts of the heart muscle preceding and during their activity, are recorded; and (5) the methods of phonocardiography which make an attempt at greater precision in the analysis of the sounds audible over the heart.

We have arranged, for this afternoon, a symposium by men especially qualified by study and experience to demonstrate the most important of these new methods used and the results that have been obtained. The whole subject is highly technical; therefore, we have asked the speakers to demonstrate their subjects in as simple and practical a way as possible.

In spite of the improvements in our methods there is still often great difficulty in making a proper diagnosis and prognosis in many cases of heart disease. This has been emphasized by the veteran clinician, Sir T. Clifford Allbutt, in an address published in the *British Medical Journal* of March, 1912, in which he says:—

"Now, if I appeal to a clinical physician, asking him what he knows about heart failure, I shall get a ready answer; I shall hear of many a case of sudden and mortal stoppage of the heart; of heart failure in infections; of cardiac dilatation and defeat under high pressures, venous or arterial; of senile decay, so corroding the heart that it can work no more; of angina pectoris; of aortic regurgitation, and so forth—his data are in plenty; his opinions decisive. And likewise when I betake myself to the pathologist, I find him no less ready for me; from him I hear of fatty degeneration; of 'cardiac sclerosis'—whatsoever this may mean; of rheumatic, diphtheritic, and such like myocarditis; of fibroid disease of the ventricular walls; of sapping of the a-v. bundle, and so forth; data again in plenty and opinions decisive. But when I desire to link up the two classes of information, when I confront the physician with the pathologist and seek to correlate the time, periods and modes of disease and death the one with the other, I find myself but little nearer to practical guidance than I was before.

"In no organ is this lack of concord between the signals of life and death so disconcerting as in the heart. In all living structures there is a factor of safety, that potential which in the heart we call reserve, but in none, perhaps, is it so capacious as in the heart. Yet, of this reserve, of what the heart can do in case of need, we have no scientific measure; the microscopist can not detect it, the clinician has no valid tests for it."

The difficulty in making a correct diagnosis and prognosis is also illustrated by the case of a New York broker, which has been largely commented on in the daily papers. His case was diagnosed "heart block" and a very unfavorable prognosis of death within six months was made last January by the army surgeons; as is well known, he has recently returned to his office in Wall Street.

These remarks are not made to discredit the recent work done in the study of cardiovascular disease, but only to emphasize the difficulties of the subject and the importance of the valuable papers to be heard here this afternoon.

For the opening paper we will have a short discussion of certain facts in the modern physiology of the heart, which are essential to a proper understanding of the subject. Then, we will have a description of the newer instruments of precision that have been found of value, including the cardiosphymograph, the electrocardiograph and the phonocardiograph. Some of us have never seen all these instruments in operation, and we can only benefit by the practical outcome of their application. Through the polygraph, which is the most practical, we are enabled to obtain simultaneous graphic records of the movements of the radial artery, apex beat and jugular pulse. The electrocardiograph is unsuitable for general clinical use, but its possibilities are great, though as yet not fully developed, we know that by means of it invaluable data as to the time relations of the movements of the several cardiac chambers have already been gained. A knowledge of the exact relations of the contractions of the heart muscle and the movements when the heart sounds begin is of importance for the accurate diagnosis of cardiovascular conditions, and by the phonocardiograph they have been able to register the heart sounds by mechanical means.

After a short description of these instruments, we will have a discussion of what has been learned by laboratory observation about fibrillation of the auricle. We are told that this is a fairly frequent phenomenon, in fact, that auricular fibrillation exists in one half of all the serious heart cases admitted to hospital wards. If such is the case, we should certainly have some definite knowledge of the diagnosis and treatment of this condition. The fourth paper will discuss the clinical features of heart block; the fifth, the manifestations of involvement of the cardiovascular apparatus in infectious diseases, and, finally, a discussion of the proper use of our great drug for these conditions, namely, digitalis. There is here presented to you this afternoon, the latest word on diseases of the heart, which we hope will arouse a lively discussion.

In closing I wish to thank you for the honor of presiding at the meetings and especially I wish to thank those who have made it possible for us to present such an excellent program for the Medical Section.

ORIGINAL ARTICLES.

PHYSIOLOGY OF THE HEART.

BY C. C. GUTHRIE, M.D.,
University of Pittsburgh, Pittsburgh.

(Read in the Section on Medicine of the Medical Society of the State of Pennsylvania, Scranton Session, September 24, 1912.)

The heart is the engine that keeps the blood in motion through the arteries, capillaries and veins. It is the most highly differentiated and complicated portion of the vascular system. Its musculature contracts rhythmically but at varying rates depending upon the functional demands on the circulation.

The fundamental mechanism of the rhythmicity of the heart is not clearly understood. Without discussing the claims of the myogenists and neurogenists, it will suffice to say that probably both are partly right. The rate of the heart is largely controlled by the extrinsic and the intrinsic nervous mechanism consisting of an inhibiting mechanism (vagus) and an accelerating mechanism (sympathetic). In addition, the rate is in part dependent upon the nutrition of the musculature itself. To properly pump the blood a definite sequence between the contractions of the auricles and ventricles is necessary for its normal working.

Normally the initiating contraction of each cardiac cycle begins near the junction of the great veins and the right auricle and spreads downward to the ventricles, apparently by a process of conduction. By some it is held that such conduction is by way of nerves, while others are convinced that it is by way of muscle. Most agree that the bundle of His, which connects the auricles and ventricles, bears a peculiar relationship to conduction, for when this slender mass of tissue is divided the normal sequence of ventricular to auricular contraction is disturbed. But some claim that this result is due to the division of nerves closely associated with the tissue proper of the bundle.

At present it is not possible to say whether the tissue of the bundle of His is muscular or nervous, as the only definite investigations have been histological, and the tissue is of a peculiar structure. To gain information, members of my staff have made investigations to determine if the tissue is contractile, but as yet the results are not conclusive.

Since the working of the heart is influenced by extrinsic impulses originating in the central nervous system, and since such portions of the central nervous system are influenced by afferent impulses, the rate and working of the heart may be influenced by afferent impulses set up in distant parts of the body. A very good example is cardiac arhythmia associated with gastric disorders and frequently confused clinically with Stokes-Adams' disease. Such irregularities quickly disappear under the influence of atropin which temporarily impairs the inhibiting mechanism by acting upon the terminal nerve filaments in the heart muscle.

INSTRUMENTS OF PRECISION.

BY H. G. SCHLEITER, M.D.,
Pittsburgh.

(Read in the Section on Medicine of the Medical Society of the State of Pennsylvania, Scranton Session, September 24, 1912.)

Of the great variety of instruments of precision used in investigating disorders of the circulatory system, two are predominant for the value of the information derived through them in recent years—the polygraph and the electrocardiograph. It is fair to state that by means of these appliances, the whole question of disordered heart rhythm has been placed on a rational basis and the satisfaction of real knowledge given to the physician. They have influenced prognosis and made it more exact, clearly indicated lines for treatment, and abolished the promiscuous use of many so-called cardiac remedies and tonics; they have stimulated an immense amount of research, clinical, therapeutic and physiological. The records themselves bear indisputable testimony to events that have occurred in the heart's mechanism, offering evidence more reliable than impressions, even from an exact observer, can ever be. It is true that many diagnoses can be made without the use of graphic records. This does not mean, however, that such records can be dispensed with, for the ability to diagnose most cases comes through familiarity with the interpretation of graphic curves.

THE POLYGRAPH.

Several forms of the instrument exist for simultaneously recording pulsations from two or three sources, these being the radial, jugular and carotid pulses, the apex beat, occasionally the liver, and at times the contractions of the left auricle through the esophagus. The ink polygraph of Mackenzie has given a particular impetus to studies of this kind. Its construction is simple and its chief advantage lies in the use of a long roll of glazed white paper (about fifteen feet in length) which can in a moment be replaced by a new roll. By this means a tracing of indefinite length is obtained, very useful for recording infrequently occurring irregularities and transitions from one type of rhythm to another, an event which ordinarily is too prone to occur after a short strip of smoked paper has become exhausted. This polygraph is easily carried about, and has little in it to get out of order. It is true that only two curves are produced at one time, but experience has proved this to be not a real disadvantage.

The function of the polygraph, in brief, is to correlate the activities of the upper and lower chambers of the heart, the jugular tracing representing the contractions of the right auricle, the radial tracing those of the left ventricle. The events occurring in auricle and ventricle are correlated by transferring measurements from the radial to the jugular curve. This curve, in addition to showing elevations corresponding to those in the radial tracing, exhibits a characteristic wave (termed "a") which represents the rise of pressure caused by auricular systole.

THE ELECTROCARDIOGRAPH.

A comprehension of this instrument is aided if it be clearly understood that the waves of electrocardiographic curves are not caused by muscular contractions, but represent instead electric changes in the heart's muscle, the point where contraction originates becoming electrically negative to the remainder of the muscle, which is positive. Also, movements of the blood and mechanical disturbances of the valves have, with perhaps one exception, no influence on this record. The curves represent the deflections of a galvanometer string caused by these electric changes. The deflections of the string are carried by the rays of an arc or Nernst lamp through a magnifying lens to a slit past which a sensitized plate or paper moves and the oscillations are recorded photographically. The ends of the string are in circuit with two points on the patient's body one point leading from the base of the heart, and the other leading from its apex. Three leads are usually selected: Lead I., right arm to left arm; Lead II., right arm to left leg; Lead III., left arm to left leg. Each of these leads yields a characteristic picture. Lead II. is adopted for routine work, but in some cases, records of all three leads are essential to an interpretation.

A normal electrocardiogram consists of three upright, or base negative waves designated respectively P, R, and T; and two depressed, or apex negative waves designated Q and S. The P wave is the representative of auricular activity. The remaining waves form the ventricular complex. All curves reaching above the base line show activity at the base of the heart. Curves below the base line show apical activity. Where the record corresponds with the base line, the activities of base and apex have counteracted each other. Electrocardiograms record (1) sequences of contraction, (2) the foci in the heart whence contraction waves originate, (3) the direction which contractions take through the musculature. The origin and direction of contractions are revealed in the form of the complexes. Contractions which originate, as they normally do, in the pacemaker give the complex presented here. Contractions originating at a focus in the auricle below the situation of the pacemaker tend to show an inverted P and this change in shape intensifies as the point of impulse formation is situated lower in the auricle and farther away from the pacemaker. Furthermore, the form of ventricular complex will, as a rule, vary according as the impulse giving rise to ventricular contraction comes from or above the auriculoventricular junction, or originates within the ventricles themselves. The shape of ventricular complex varies further according to the condition of the two branches of the bundle of His.

A variety of curves have been experimentally produced by electrical stimulation at various levels in the dog's heart, with electrocardiographic records. As the electrical records of the dog's heart and the human heart resemble each other very closely, it only remains, given an unusual complex in a human curve, to compare it for identification with the many experimental curves already on record.

ABNORMALITIES IN THE HEART AS SHOWN BY POLYGRAMS AND ELECTROCARDIOGRAMS.

Hypertrophy of the Ventricles. In polygraph tracings there is little to prove definitely a ventricular hypertrophy, though it is presumable that the pulsus bisferiens, a double-peaked radial wave with representatives in the jugular curve, represents an increased activity in the left ventricle.

The electrocardiographic picture of left and right ventricular hypertrophy is a distinct one. In hypertrophy of the right ventricle the R wave of Lead I. is inverted while Leads II. and III. have approximately their usual form. In hypertrophy of the left ventricle, the R wave is inverted in Lead III. with Leads I. and II. approximately normal.

Hypertrophy of the Auricles. This is an accompaniment of mitral stenosis, and is shown in electric curves as a P wave of more than customary breadth and with a notched top.

Diminution of Contractility. The extent of the heart's contractility, that is to say, its functional strength, is one of the chief aims of clinical study, yet so far it has largely eluded efforts at investigation. Occasionally, a radial tracing gives a clue in the pulsus alternans. The contraction waves are of equal length, but every other radial upstroke is shorter than normal. This condition may appear as a temporary result of acute heart strain, or it may denote a diminution in the organ's contractile strength. In the latter case, its significance is serious. Pulsus alternans, while often palpable to the finger is occasionally demonstrable only by means of a tracing, so that where a weak musculature is suspected, such tracing is always indicated.

In the electric curves, the phenomena of alteration are not distinctive though at times the R waves alternate, the short R wave being occasionally associated with exaggerated T waves.

Transposition of the Heart. Changes in the electric curves result here from the fact that the heart's base is directed to the left instead of to the right; consequently, if the ordinary leads are adopted, it will be discovered that the curve produced by Lead I. is upside down, though otherwise normal. The normal picture is produced if Lead I., R. A. to L. A., is transposed to L. A. to R. A., the left arm being thus connected with the base wire instead of the right arm.

Integrity of the Right and Left Branches of the Bundle of His. Experiments involving the destruction of the right and left branches of the bundle of His have been performed with characteristic pictures in the ventricular complex. In addition to their peculiar form, they show by the extent of their oscillations, an enormous change in electromotive force. Similar curves have been obtained in man, but their interpretation up to the present time has not been confirmed anatomically.

Disturbances of Rhythm. (Heart-block and auricular fibrillation will not be considered here.)

Phasic Variations. In young children and in convalescents from acute infections, the pulse frequently shows a wavelike acceleration and retardation of rate. Holding the breath will often do away with this irregularity. Sometimes it persists even when the breath is held, in which case it may be considered due to variations in intensity of vagal innervation, the vagus being in these cases unusually susceptible to outside stimuli. In polygraphic tracings of these cases, the sequence of contractions is normal as are also the electrical complexes. The abnormality is shown only by gradual increase and decrease in the intervals between successive contractions.

Premature Contractions. Premature beats are those originating from any part of the remains of the primitive cardiac tube other than the sino-auricular node. They are recognized in the pulse as premature beats in an otherwise normal rhythm or as missed beats. At the apex, they are heard as premature sounds weaker than the normal contraction preceding them and followed by a compensatory pause of varying duration. While these contractions may arise from a number of different foci, only three of these can be recognized in polygraphic tracings; namely, ectopic auricular contractions, contractions starting from the auriculoventricular junction, and premature ventricular contractions. Electric curves, however, explain their nature more completely, since the form of the P wave shows the level of auricular tissue from which the impulse starts, while the form of ventricular complex shows whether it is of ventricular or supraventricular origin.

Paroxysmal Tachycardia. Graphic studies have done much to throw light on this previously obscure condition. It is to be emphasized that this term does not include acceleration of the heart beat, however rapid, in which the electric waves are of the normal form and in which the impulses start in the pacemaker. Such accelerations of rate are frequently observed to result from muscular exertion, excitement, or the toxemias of acute infections. The rise in rate here is gradual as is the decline. The onset of paroxysmal tachycardia is abrupt and its cessation also. The onset is usually heralded by a number of permature contractions interrupting the normal rhythm, and electrocardiographic studies have shown that all the contractions in a paroxysm are ectopic beats arising from the same focus as do the preliminary premature contractions. In other words, a paroxysm represents an uninterrupted succession of premature contractions.

Ventricular Fibrillation and the Effect of Chloroform Vapors on the Heart. Ventricular fibrillation, a condition in which disordered contractions occur as a result of incoördinate movements of the single muscle fibers of the ventricles, is incompatible with life, and thus far has not been observed clinically. Recent observations reported by Thomas Lewis show, however, that the administration of low percentages of chloroform vapor causes ventricular fibrillation and death in the cat, and it may be that these studies will in the future throw some light on the cause of sudden death occurring during chloroform anesthesia.

The scope of the polygraph (*i. e.* for the study of arhythmias and the pulsus alternans) is pretty well defined. For the electrocardiograph, extensive fields still remain for investigation. Its already discovered value is incontestable and both instruments have attained a position in which a correct concept of cardiovascular disturbances is incomplete without them.

AURICULAR FIBRILLATION.

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(Read in the Section on Medicine of the Medical Society of the State of Pennsylvania, Scranton Session, September 24, 1912.)

For a long time physiologists have been acquainted with the fact that rapid induction shocks applied directly to the auricle of an animal's heart produce a condition called auricular delirium or fibrillation. That is to say, on opening the chest of the experimental animal the heart shows systoles of the auricle and ventricle following each other regularly, but apply the rapid electric shocks directly to the auricle of this same heart and it passes into fibrillation, presenting a constant and characteristic picture. The auricle as a whole stands still in diastole, but close inspection shows the surface of its wall in constant, rapid, fine, undulatory but ineffectual movement. The whole auricular wall appears to be broken up into a number of areas in which there is a common mingling of haphazard contractions and relaxation of muscle fibers. Each of these areas is originating abnormal impulses which are akin to the pathologic stimulus which produces a single extrasystole. But here, instead of the one morbid impulse producing an extrasystole, we have a mob of stimuli. The effect of the fibrillating auricle on the ventricle is intense; instead of the normal regular auricular impulse leading to coördinate ventricular contraction, the ventricle receives an enormous and haphazard lot of stimuli which escape from the rabble in the auricle. The ventricle trying to respond to these rapid impulses increases its rate and its contractions become entirely irregular. Thus arises the totally irregular arterial pulse of the auricular fibrillation. The process is the same in the experimental animal and in man with one exception. In the animal the conducting tissue being normal the pulse rate always doubles or even trebles. In man where the a-v. bundle may be normal or impaired the ventricular rate varies widely in different patients. With normal conduction the heart rate may reach 200, with impaired conduction it may be as low as 40. The average is probably from 90 to 150.

The question as to whether auricular fibrillation arising spontaneously has ever been seen by the naked eye can be answered in the affirmative. It occurs occasionally in the horse. It is recognized by irregularity of the heart, dyspnea, early exhaustion, systolic venous pulsation on exertion, and occasionally by dropsy and epistaxis. The heart rate is increased from the normal 35-40 to 60-70, or even as high as 150. Polygraph and electrocardiograph curves have been taken and found characteristic.

Dr. Thomas Lewis, to whom students of modern cardiology find themselves indebted at every turn, since the animals had to be sacrificed, had two of the horses shot, the chest was opened under artificial respiration and a typical picture of auricular fibrillation was seen. Auricular fibrillation is then a condition in which the normal regular stimulus produced by a single area in the auricle is replaced by abnormal impulses arising in many auricular areas. The auricle ceases coördinate contraction, and the multiple disorderly stimuli produce total irregularity of the ventricle. In the language of graphic methods auricular fibrillation is a clinical entity characterized by gross irregularity of the arterial pulse associated with the ventricular form of venous pulse.

ETIOLOGY.

Lewis' analysis of a series of 126 cases of auricular fibrillation furnishes important data. There was an antecedent history of rheumatism or chorea in seventy per cent. of the cases. The rheumatic cases affect the two sexes practically evenly, but in the nonrheumatic cases men are in the majority.

Auricular fibrillation has been found as early as thirteen years and as late as eighty-four years. In the nonrheumatic type it is commonest in advanced life, from sixty to eighty years. In the rheumatic type the large number of patients are from twenty to thirty, but the number is almost as great in the next two decades. Of the cardiovascular conditions with which auricular fibrillation is associated there may be enumerated, mitral disease, aortic disease, arterial disease, myocardial degeneration, and interstitial nephritis.

The close relationship between auricular fibrillation and mitral stenosis is marked. In the series referred to, in fifty-two per. cent. of the fibrillating cases there was mitral stenosis. Again, in a series of 106 cases of mitral stenosis, collected in the outpatient department, in twenty per cent. there was auricular fibrillation. Similar series of these cases in the wards would probably show a much higher percentage. The association of total irregularity of the pulse with decompensating cases of mitral stenosis was noticed many years ago, and led to this type of radial being referred to as the mitral pulse. Statistics seem to indicate that of all patients with cardiac failure admitted to the hospitals sixty to seventy per cent. would be found fibrillating.

MORBID ANATOMY.

Auricular fibrillation may occur in a heart which is the seat of any one valve lesion or combination of valve lesions. Simple aortic valvular disease with auricular fibrillation is as rare as mitral stenosis with auricular fibrillation is common. On the other hand, it occurs in hearts where there is no reason to suspect valve lesion. The only fairly constant structural changes are microscopic and predominate in the auricles. There are a diffuse fibrosis, leukocytic infiltration, and atrophy of muscle cells. However, not all fibrillating hearts show such lesions, and many hearts that have never fibrillated show similar lesions. The microscopic findings are more likely the result of infection causing muscle changes than fibrillation direct. If chronic myocarditis had not been so overworked already it might be a useful term yet.

SYMPTOMS.

In auricular fibrillation the heart is the seat of some degree of myocardial degeneration and most often also of valvular defect. The symptoms are then largely those of ordinary cardiac failure. The fibrillating subject is more prone to a sense of fluttering in the chest, earlier exhaustion and dyspnea, while on the other hand he appears unusually free from angina.

The potential paralysis of the auricle appears to have little effect, its function seems to approach that of a reservoir. The irregularity of the ventricle must throw an extra load on an already taxed heart. However, there appears to be no symptoms in the failing fibrillating heart that may not occur under similar circumstances in a heart that has never fibrillated.

DIAGNOSIS.

That auricular fibrillation is to-day recognized as a distinct clinical entity is due to the polygraph and electrocardiograph. In a clinical paper one can merely refer here and there to the evidence they furnish without going into full detail. The clinical diagnosis rests upon two phenomena, irregularity of the ventricle and potential paralysis of the auricle. Let us first examine the graphic curves both arterial and venous, and then refer to some simpler rules of diagnosis which though derived from clinical experience yet owe their explanation largely to graphic methods.

Reference to a group of arterial curves of auricular fibrillation shows the pulse rate may be slow or fast ranging from 30 to 200. The faster rate is the commoner, approximately it doubles the ordinary rate, reaching 120 to 150, and here the disorder is most evident. There is a haphazard succession of strong and weak contractions, the latter often quite dicrotic. Many beats fail to reach the radial so that auscultation at the apex gives a better idea of the actual ventricular rate. In the slow case the irregularity is less marked and here careful measurements may be necessary to fix the diagnosis. In the study of the curves at least three tests should be applied. (1) The irregularity is practically absolute, it is the exception for two beats of the same length and height to succeed each other. (2) The lengths of the pauses between the beats bear no simple relationship to one another. In this feature the pulse of auricular fibrillation is unique among the cardiac irregularities. (3) There is no constant relationship between the strength of the beat and length of the preceding pause. A strong beat may follow a short pause and weak beat a long pause. A long pause, by allowing the muscle time to recuperate and the ventricular cavity to fill should produce a strong beat in ordinary conditions. The reverse would be true with a short pause.

The ventricular form of venous pulse is constantly obtained from the jugulars of these patients. The rapid volume movements in the auricle, which give rise to waves on the jugular tracing, all occur during ventricular systole. The sole difference between the auricular and the ventricular form of venous pulse is the constant absence of the auriculosystolic wave *a* in the latter.

The ventricular form of venous pulse is not confined to auricular fibrillation. It may occur where the arterial pulse is regular in at least three conditions, great engorgement of the right side of the heart, in simultaneous contraction of auricle and ventricle, and dissociation in certain forms of heart block. In a given case the arterial regularity or complete irregularity puts us on the right track.

Formerly the ventricular venous pulse was looked upon as a sign of tricuspid regurgitation; it may or may not be. In auricular fibrillation with no valve lesions and no signs of stasis it is due simply to auricular stand-still. With valve lesions and increasing right-sided engorgement in both auricular fibrillation and in regular rhythm we can take the venous curves of the ventricular venous pulse, and the ventricular parts of the auricular venous pulse and construct a diagram showing the transition from perfect venous flow to marked tricuspid reflux.

This further emphasizes that the only fixed quality differentiating the ventricular from the auricular venous pulse is the constant absence of the wave *a* in the ventricular form.

The electrocardiograph was a vast help in determining the existence of auricular fibrillation in man. But since it is available to so few of us it is fortunate that diagnosis of the condition is possible without its use. The statement detracts nothing from the well-recognized delicacy and accuracy of the instrument.

Having obtained definite knowledge of the process by instruments of precision certain simple procedures, especially in patients with rapid ventricular rate, make us fairly sure of a correct diagnosis. The abnormality of the radial pulse gives the first clue, but the stethoscope at the apex will give a better idea of the ventricular irregularity. First and second sounds are present with each beat that produces arterial pulsation. The second sound is missing if a beat fails to reach the radial.

When the irregular ventricular rate is above 120 it is due to auricular fibrillation in the majority of cases. Rapid irregular ventricular action accompanying serious signs and symptoms of heart failure is usually due to auricular fibrillation. The comparison of auricular fibrillation and other irregularities as extrasystoles and partial heart block offer interesting contrasts; auricular fibrillation is persistent; the others show intervals of regular rhythm. Exercise increases irregularity of the former, abolishes the irregularity of the latter. After exercise the irregularity of the auricular fibrillation gradually decreases; under similar circumstances the irregularity of the latter returns. Fever and drugs of the belladonna series increase the irregularity of auricular fibrillation and diminish the irregularity of the latter.

From his rich experience, both clinical and experimental, Lewis has formulated definite rules concerning the changes in murmurs heard at the apex with the onset of fibrillation. Aortic murmurs present during regular rhythm will persist or disappear during fibrillation according to the strength or weakness of the individual heart beat. A mitral systolic murmur persists, except where the fibrillating pulse rate is very rapid, this murmur is apt to disappear. The natural inference and often repeated statement that the presystolic murmurs of mitral stenosis vanish in auricular fibrillation is only partly true. The fate of these presystolic murmurs depends upon the degree of stenosis and the rapidity of the pulse rate. Some disappear, some change their time in diastole. If, with the regular rhythm there is a short presystolic murmur, this murmur disappears with the onset of fibrillation, especially if the pulse rate is rapid. Here it would appear the loss of auricular systole is in evidence. If with normal rhythm the presystolic murmur is long and rough a similar murmur persists in fibrillation but with changed time relationship. In fibrillation the second sound at the apex is the better land-mark for studying these diastolic murmurs of mitral stenosis. If the ventricular rate is rapid the murmur begins early in diastole and fills the whole interval to the first sound of the succeeding beat. When the heart rate is less rapid the murmur also begins at the second sound but fails to reach the succeeding first sound in the longest ventricular pauses. When the ventricular rate is slow, the murmur is confined to early diastole, it begins just a little after the second sound and varies some in length but fails ever to reach the succeeding first.

The explanation of the changed time relationship now concerns us. The diastolic murmurs of mitral stenosis depend upon the rate of flow through the narrowed orifice, and the rate of flow depends upon the comparative pressure in auricle and ventricle at any given time. A moment's thought shows that auricular pressure must be higher throughout diastole than the ventricular, and reference to any normal jugular curves of regular rhythm shows that at two points (*a* and *v*) the excess is greater; *i. e.*, during auricular systole and just at the opening of the mitral valve.

Therefore, with a normal rhythm mitral diastolic murmurs are most pronounced first in late diastole (presystolic), and second, in early diastole. Similar murmurs where the auricle fibrillates are heard in early diastole, they may vary in length but especially with a slow pulse they never reach the succeeding first sound because of increased ventricular pressure toward the end of diastole.

With mitral stenosis, auricular fibrillation and slow pulse, we have just seen that an early diastolic murmur clear at and around the apex is a common experience. This murmur has frequently led to the diagnosis of mitral regurgitation. It will not be misleading if the following facts are kept in mind. Simple aortic disease with auricular fibrillation is not common. It is questionable if an aortic regurgitant murmur is transmitted to the apex as often as stated. Comparatively the early diastolic murmur of mitral stenosis is softer and, as has been said, it begins a little later than second sound. The presence or absence of Corrigan pulse and a diastolic murmur at the aortic cartilage should help fix the diagnosis.

PROGNOSIS.

The prognosis depends largely upon concomitant conditions, the presence or absence of valve lesions, dilatation, renal or arterial disease, and the past history. Fibrillation adds an extra load to an already burdened heart, for its very presence denotes some myocardial change. Patients have been known to live ten years, and a few longer. The ventricular rate is the most valuable index. A maintained rate of 120 is of serious import, a constant rate of 140 is rarely borne but a few months, and a rate of 160 but a few weeks. The absolute rate is probably a little less important than the reaction to medication. If medicines slow the rate and keep it slowed the outlook is more promising. The rheumatic group reacts better to drugs.

TREATMENT.

There is no more brilliant result in the domain of drug action than the specific effect of the digitalis group in some cases of auricular fibrillation. Doubtless it was this happy result in those patients that gave the digitalis series their reputation in cardiac diseases. It is in the younger persons of the rheumatic group, especially if they have initial rapid pulse rate, that digitalis acts most successfully. In the nonrheumatic group (in which the persons are usually older) the results are not so encouraging. The reason for this is explained in certain recent studies as to how digitalis acts on the heart. It is found that digitalis slows the heart rate both by vagal stimulation, and by direct action on the heart muscle itself apparently allaying the ventricular irritability.

Increased vagal inhibition prevents so many disorderly auricular stimuli from reaching the ventricle. By the so-called atropin reaction it is frequently demonstrated, especially in certain nonrheumatic fibrillating cases, that the slowing is entirely vagal. The degeneration in the heart muscle in those cases seems to have reached a degree which renders it no longer capable of improvement. So with such a heart slowed under digitalis, remove the vagal inhibition by atropin and immediately the pulse rate rises. On the other hand, in the rheumatic group the same atropin test proves the slowing is due to both vagal stimulation and cardiac tissue improvement. The latter being often much the larger factor, shows that these hearts have a muscle capable of being helped.

A patient with persistent rapid fibrillation is sure soon to suffer from cardiac dilatation and its uncomfortable train of symptoms. The problem confronting the physician is to check this rapid incoordinate ventricular rate which leads to exhaustion. Happily a good tincture of fresh infusion of digitalis usually meets his needs. The usual adult dose of the tincture is fifteen minims three or four times a day, of the infusion one to two drams at the same intervals.

The rate of the heart beat is the best guide to its administration. A patient with fibrillation who is conscious of distress only on unusual exertion, as hill climbing, and whose pulse rate is around 80, needs directions ordering his mode of life, but not digitalis as yet.

The following directions apply to such a patient but even more strongly to those with higher pulse rates. Heavy work, competitive games and free indulgence in alcohol and tobacco are interdicted; pregnancy is apt to aggravate the condition. Respiratory catarrhal diseases and the belladonna series used in their treatment are both to be avoided. The hygienic and dietetic directions are the same as usually given in cardiac diseases, and their stringency varies with the severity of the individual case. Where a surgical operation is imperative general anesthesia may be used, but fibrillation should weigh heavily against a debatable surgical necessity.

When there is fibrillation, a patient, with a pulse exceeding 100 while at rest, needs digitalis. He should have the doses mentioned above regularly until the pulse slows to 70 or the physiologic limit for digitalis is reached as shown by headache, nausea, vertigo and possible diarrhea. Not infrequently the first marked fall in pulse rate does not come until this physiologic limit is reached. Having reached a pulse rate of 70 or the physiologic limit the drug should be stopped. The difference in reaction of different groups of patients will now become evident. In the first group the pulse rate does not accelerate after the withdrawal of the drug, and there is little increase as the patient gets up and around. The result is more or less permanent until some new strain provokes a new attack. In the second group the pulse rate tends to accelerate after the digitalis is withdrawn especially when the patient gets up, but it often can be held in check by small doses, five minims two or three times daily. The patient's own sensations are often a good guide to the minimum quantity of digitalis which will keep him comfortable.

In the third group the larger doses of digitalis are necessary continually to keep the pulse rate in reasonable bounds. These are probably the patients where the entire slowing is due to vagal inhibition, stopping the digitalis removes this and the unimproved heart returns to its rapid irregular rate.

Pronounced slowing is usually produced by six to eight drams of digitalis, but where this fails it is often necessary to increase the doses to twenty or thirty minims three or four times a day and persevere until the result is obtained or it is shown to be futile. There is a certain proportion of patients, mostly among the nonrheumatic group in later life, where the whole digitalis series fails. For such patients there is little else to be expected from drugs.

There are well-defined indications for the withdrawal of the drug, ordinarily nothing is to be gained by lowering the pulse below 65 to 70, coupling of beats or any of the symptoms of physiologic limit should cause it to be stopped at once. Sudden deaths from prolonged digitalis poisoning are possibilities. Certain individuals can not tolerate even small doses of digitalis without some gastrointestinal disturbance. For such patients tincture of strophanthus or tincture of scilla in doses of ten to fifteen minims are better borne and may give the desired results.

In speaking of intravenous injections the writer deprecates the overuse of the method by some not only in cardiac but in other diseases. "The practice limited to intravenous medication" specialist has already arrived. In the conditions already under consideration there are two well-defined indications for strophanthin intravenously, first, where the patient can not tolerate enough digitalis or its allies to slow the pulse, and, second, where a patient has or develops a pulse of 160 or above. The condition now is urgent and strophanthin. 1/250 grain in thirty to sixty minims of normal salt solution, intravenously every two to three hours will often reduce the pulse to 90 in six to twelve hours. Digitalis in large doses, twenty to thirty minims, should be given at the same time by mouth and the strophanthin withdrawn when the former appears to have taken hold. Unusually fine hypodermic needles, 28 gauge, ⅝ inch long, are easier to introduce into the vein. The needle once in the vein, in a few seconds the slight tinging of the fluid by blood in the distal end of the barrel will appear without pulling the piston back. All intravenous injections should be given slowly. Ten minutes consumed in emptying the syringe is well spent.

THE INFECTIOUS FEBRILE HEART.

BY GEORGE WILLIAM NORRIS, A.B., M.D.,
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PATHOLOGY.

The heart may suffer in infectious disease as the result of (1) gross lesions—endocarditis, pericarditis, myocardial ulceration; (2) microscopic lesions—myocarditis of the organ as a whole or a special portion of it, or from involvement of its rhythmogenic or conductive system (sinus node, auriculoventricular bundle, etc.), or of its nerves; (3) chemical changes.[1] These changes may result directly from microörganismal activity or from toxemia. The latter affects with especial predilection the functionation of the vasomotor system and results in a fall of blood pressure, chiefly if not entirely from loss of vascular tonus.

Modern physiology accredits the heart muscle with five distinct qualities: (1) Stimulus production, (2) stimulability, (3) conductivity, (4) contractility, (5) tone. Any one or more of these different functions may be disturbed as the result of toxemia. Thus, postdiphtheritic bradycardia may result from a depression of stimulus production and stimulability, or from auriculoventricular heart block.[2] From a study of seventy-eight cases of diphtheria after the patients' discharge from the hospital, F. W. White[3] found that cardiac involvement was much more common than is generally supposed, and that while usually presenting the symptoms of mitral insufficiency with arhythmia and sometimes elevation of the pulse rate, the symptoms were such as might be easily overlooked.

Anaphylactic manifestations following the injection of antitoxin are often associated with cardiac manifestations ranging from slight arhythmia to sudden death. Auer[4] has shown that the latter event results directly from cardiac failure due to changes in this organ itself and independent of the central nervous system. Not infrequently the lesions are found in the auriculoventricular bundle, and account for various degrees of heart block.

Similar conclusions were arrived at by Schmaltz[5] in fifty-two diphtheria and nineteen scarlatina cases studied after the patients' discharge. White and Smith,[6] among nearly one thousand cases of diphtheria, found that death was due to cardiac involvement in about twenty-five per cent. of the fatal cases.

Tanaka's[7] studies of fifteen children, dead from diphtheria, showed that fatty and hyaline degeneration of the myocardium was the most important change. This condition affected either the auriculoventricular bundle or the myocardium often independently. In forty-three patients dead from typhoid fever, Hamman[8] found some cardiac changes in nearly all instances, and, while cardiac lesions are a much less prominent feature in this disease than in some others, cardiac involvement is nevertheless a feature which must be reckoned with, especially in regard to its ultimate effect in myocardial integrity. It is well known that the effects of rheumatic fever on the myocardium are, to say the least, no less serious than upon the endocardium. Coombs[9] found fatty degeneration, especially of the left ventricle, to be the commonest lesion. In many of the fatal cases of diphtheria the degeneration of the vagus nerve has been found.[10]

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[1] Rzentkowski (*Zeit. f. kl. Med.*, 1910, LXX., p. 337) has shown that abnormal distribution of NaCl, protein, etc., occur in different parts of the insufficient cardiac muscle.

[2] Case reported recently by Hecht, Mitt. d. Gesellsch, f. inn. Med. n. Kinderh., 1912, p. 8.

[3] F. W. White, *Jour, A. M. A.,* Oct., 21, 1905.

[4] J. Auer. *Jour. Exp. Med.*, 1911, No. 5; *Zentralbl. f. Physiol.*, 1912, p. 363.

[5] Sebmaltz, *Deut. Arch. f. kl. Med.*, 1905, LXXXV., Nos. 1 and 2.

[6] White and Smith, *Boston Med. and Surg. Jour.*, Oct. 20, 1904.

[7] Tanaka, *Virchow's Archiv.*, Jan., 1912, CCVII.

[8] Hamman, *Arch. Int. Med.*, Oct. 15, 1910.

Lesions of suprarenal glands are frequent in infectious disease, and are directly accountable for death in some cases. The glands in addition to furnishing a blood-pressure-raising substance are apparently also otherwise concerned in the production of protective substances.

Thus a great deal of literature might be quoted to show that while the serious endocardial complications of certain infections, notably rheumatic fever, tonsillitis, pneumonia and gonorrhea, are perhaps sufficiently appreciated and looked for, yet equally serious myocardial involvement is more easily overlooked. We must remember that any infection may be followed by cardiac involvement. Influenza, especially in the aged and in individuals with an already diseased cardiovascular system, indicates the strictest attention to the heart. Such involvement may be endocardial, pericardial, myocardial or cardioneural.

DIAGNOSIS.

We must not rely on the presence or absence of murmurs alone to determine a cardiac lesion. Murmurs (especially in the pulmonary area) are very common and often inconsequential. They occur in a large proportion of all fever cases. Increase of the pulse rate, hypotension, arhythmia, approximation of the first and second sound, shortening and muffling of the first sounds, are of far greater importance in many instances. As regards arhythmia, we may be misled in our diagnosis and prognosis, unless we take care to differentiate sinus arhythmia (inspiratory acceleration) from other forms. Marked symptoms such as dyspnea, edema, cyanosis and hemorrhage are uncommon.

Fever is an index of reaction to infection. It is more than this; it is part of the reaction itself. This fact, long suspected clinically, has now been established experimentally. The mere existence of pyrexia is therefore not an indication for treatment calculated to reduce it. But, while a brisk fever is to be desired in pneumonia, for instance, and while patients having a temperature of 103° are apt to do better than those with a range of 99° to 100°, hyperpyrexia not only indicates an intense virulence of infection but may *per se* be a menace to myocardial stability.

Clinically hyperpyrexia, in so far as the circulation is concerned, is associated with (1) low blood pressure; (2) an unduly rapid pulse. In this connection two facts stand forth with undesirable preëminence:

1. Arterial hypotension plays quite as great and probably a greater rôle in a lethal termination in acute infections than does myocardial weakness; while the remedies for combating it are few, and those few are often ineffectual.

2. Our therapy of febrile tachycardia is most unsatisfactory. The influence of the toxic and febrile factors over the heart muscle and its controlling nerves is so much more potent than our methods of control that oftentimes little in a remedial line can be accomplished. Digitalis and strophanthus, our stand-bys under ordinary conditions, are signal failures.

I. INDIRECT TREATMENT OF THE CIRCULATORY APPARATUS.

In treating febrile myocardial weakness we must direct our efforts primarily towards improving the patient's general condition by attempting to lessen toxemia. This is best accomplished by the following:—

1. Unlimited fresh air. The rule of "open windows regardless of season, climate or disease" has but few, if any, exceptions. Even subnormal temperatures

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[9] Coombs, *Quart. Jour. Med.*, Oct., 1908.
[10] J. Howland, *Jour. A. M. A.*, Dec. 19, 1908, LI,

are best treated thus if combined with the local application of heat, hot water bottles, etc.

2. Continuous or interrupted enteroclysis with hot, warm or cold saline solution as the case may demand. Copious draughts of water, to which mild diuretics may be added. Bitartrate of potassium lemonade is often acceptable and beneficial. It is well to bear in mind that where cardiac disturbances are toxic in origin they may often be most successfully combated by the simple administration of water. Lederer and Stolte[11] found in scarlatina that cardiac symptoms could be satisfactorily controlled by this means alone.

3. Sufficient sleep. Pain must be relieved by local applications if possible; by sedatives—bromids, codein, morphin, if necessary. The supposed danger attending the use of morphin in cases of renal insufficiency is not borne out either clinically or experimentally, but opium does favor the production of tympanites. Hot mustard foot baths do much to relieve cerebral congestion and improve the peripheral circulation. Ice bags to the head and neck are often useful.

4. Proper evacuation of the bowels.

5. Cold sponging. This procedure aids in the reduction of temperature, but plays a far more important rôle in stimulating the central nervous system and the peripheral circulation. It should therefore not be reserved for patients exhibiting any definite degree of fever, but should be employed in any febrile case in which nervous or circulatory stimulation is desired.

6. Specific treatment of the infection. In any case in which this is possible, as in diphtheria, malaria,[12] cerebrospinal meningitis, and perhaps scarlatina,[13] such a method of overcoming circulatory weakness of course supersedes all others in importance.

Tympanites results from toxic paresis of the intestines or improper digestion. Generally both causes are combined. Treatment, if it is to be successful, must be instituted early. Evacuation of the bowels, temporary exclusion of starches from the dietary, peptonized milk, expressed beef juice and other nutritive, easily assimilable, not readily fermentative foods must be substituted. Turpentine stupes, eserin or strychnin, gentle massage of the colon are useful.

Better results will be forthcoming if we devote more attention to the vasomotor system and less to the heart in infectious disease. When vascular tone is in abeyance it is worse than useless to stimulate the heart. We must do something to prevent the stagnation of blood in the splanchnic vessels and get it back to the cerebral centers, the muscles and the periphery; in other words to raise arterial tension. Adrenalin will do this temporarily and fugaciously. Treatment by this means has recently been endorsed by Moltschanoff[14] based on a study of the adrenal glands of children dead of diphtheria and scarlatina, and corroborated by animal experimentation. Strychnin and caffein increase reflex action and thus indirectly tend to produce a similar result. And yet, even though the administration of strychnin often does good in these cases it will but rarely produce a demonstrable elevation of blood pressure. Peripheral irritation by means of mustard, heat or cold sponging and massage furnish us with the best means of obtaining increased centripetal stimulation and thus an improved vascular tone.

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[11] Lederer and Stolte, *Jahrbuch für Kinderheilk.*, Oct., 1911.

[12] Cardiopathies in malaria are not unknown. Triantayphyllides (*Grèce Médicali,* VII., No. 1) found 68 among 12,000 cases of malaria. The cardiopathy generally occurred in people previously infected and frequently ran its course with the infection itself. Both endo- and myocardial complications were noted.

[13] Troitzky (*Arch. f. Kinderheilk.*, 1907, XLV., Nos. 1 and 2) has reported good results in scarlatina with cardiac involvement from serum treatment.

[14] Moltschanoff, *Jahrb. f. Kinderheilk.*, LXXVI., July, 1912.

II. DIRECT TREATMENT OF THE CIRCULATORY APPARATUS.

This is very often as unnecessary as it is apt to be valueless, if what has already been said regarding toxemia is borne in mind. There are however certain methods of treatment which may be employed.

1. An ice bag over the precordium is often useful in slowing the pulse rate.

2. Drug treatment. The response of the febrile organism to drugs is often quite different from that in health. This may be due to temperature or toxins or inanition. All three of these factors have been shown capable of altering metabolic processes.[15] Jordan[16] has shown that fasting dogs are much more readily affected by digitalis than the controls. This was associated with diminished irritability of the vagus nerve. Strychnin is the most generally useful drug, although its action is on the nervous system only. It is a drug which is much abused, given too early in the disease with the idea of "keeping up strength"; whereas it is really a waster of energy, as is a forced draught to a furnace. It, like the whip of the well-trained jockey, should be reserved for the spurt at the finish, to tide the patient over a crisis or through the last few days. I have seen subacute strychnin poisoning in toxic patients considered the subsultus tendinum of disease.

Caffein is a useful stimulant yielding much more satisfactory results in fever than many other drugs which are routinely employed. It stimulates both the heart, the central nervous system and the kidneys, and is eliminated promptly. It may however increase restlessness and delirium in certain cases.

Camphor: It is a common observation that this drug given hypodermically in the form of the oil improves the circulation for a limited time. One reason for its limitations lies in the fact that it is in this country so often employed as a last resort in moribund cases. Pässler noted distinct vasomotor improvement following the administration of camphor in animals with infectious hypotension. Neither caffein nor camphor causes a rise of blood pressure in normal individuals unless given in toxic dose, but they do tend to raise an abnormally low pressure.[17]

The digitalis group: That we might by some means stimulate the cardiac branches of the vagus nerve in febrile tachycardia were indeed "a consummation most devoutly to be wished." But alas, our stand-bys of ordinary times, digitalis and strophanthus, here leave us in the lurch. This fact has been alluded to in previous articles,[18] and while often overlooked by therapeutists is by no means a new nor an original observation.[19] *Causa latet, res ipse notissima.*

But if this class of drugs must be tried in toxic febrile cases it should be given hypodermatically (so that at least the uncertainty of absorption can be eliminated) and administered either in the form of digipuratum, 0.1 gm.; digalen, 1 c.c.; or strophanthin (Boehringer ½ to 1 mg.).

DIGITALIS.

BY M. H. FUSSELL, M.D.,
Philadelphia.

(Read in the Section on Medicine of the Medical Society of the State of Pennsylvania, Scranton Session, September 24, 1912.)

The preparations of this drug are the most useful and sometimes the least to be depended upon of any set of drugs in the Pharmacopeia. Digitalis, when used with thoughtfulness, in active preparations is life saving. When used without proper considerations and in inactive preparations, not only may it fail to save life, but by the thoughtless use, or the use of a weak preparation, it may allow a fatal termination to a case which otherwise might have recovered.

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[15] For summary of definite instances see: W. Salant, "Action of Drugs under Pathologic Conditions." Circular No. 81, Bureau of Chemistry, United States Department of Agriculture.

[16] Jordan, *Centralbl. med. Wissensch.*, 1895, 23, 145.

[17] Doctorowitch, *Therap. d. Gegenwart.*, XLVII., No. 8, p. 343.

[18] George W. Norris, PA. MED. JOUR., Feb., 1911, p. 362.

[19] L. Brunton, "Circulation and Respiration," 1906, p. 211.

In this age with commercial drug houses of known good reputations, fitted with laboratories and apparatus to efficiently test the value and strength of the preparations they make, whose word may be depended upon, there is not the slightest excuse for the general practitioner to use old or inefficient preparations. Tablets of the tincture and the hypodermic tablets of digitalin, are not to be depended upon.

Tincture of digitalis should be not more than one year old and should be tested physiologically. If this is used as a fat free tincture it may be used hypodermically when occasion requires, without the slightest fear of abscess formation and without an extreme amount of pain, and certainly with good effect.

The infusion of digitalis must always be made fresh from leaves which are assayed and physiologically tested. When so used it unquestionably is the best form of digitalis to use when one desires a diuretic action plus the action on the heart muscle. The so-called infusions sometimes made up from an extract of uncertain strength are an abomination.

The fluid extract I have scarcely ever used, having found either the tincture of digitalis or the infusion of digitalis to act properly.

The various forms of digitalis derivatives, which are upon the market, must be used with some degree of caution. Each manufacturer claims that his preparation of digitalone, digitoxin, or digitalin, or whatever it may be, acts better than any other form of digitalis. This, when weighed in the balance of clinical experience, is found to be distinctly not true. I think there are very few of the various preparations which I have not myself tested. The ordinary preparation of digitalin I have found to be absolutely without any value, notwithstanding the fact that the manufacturers make such great claims for its action. Digitoxin, or its solution digalen, is the preparation for which the manufacturers claim all the merits of the digitalis preparation. I think it is of some value, but it is not the fact that it can be used hypodermically without untoward effects. I have used it hypodermically in one case where every single hypodermic injection was followed by a great area of erythema and induration, and a great amount of pain.

The Parke, Davis and Company preparation of digitalone when fresh is apparently efficacious and may be used hypodermically as well as by the mouth, but when the preparation stands for any length of time, a deposit occurs which is, in my experience, certain to bring about an irritation if the drug is used hypodermically. Lately, this has been put up in the form of tablets which the makers claim have all the good properties of the liquid and none of the bad.

Digipuratum I have not used, but like the other preparations it may be tried.

My advice, however, is that, when the actual effect of digitalis is desired, either the tincture, the fluid extract, or the infusion should be used.

The most important action of digitalis is that upon the heart muscle. The systole is strengthened and prolonged, and the diastole is shortened. It is because of this action upon the heart muscle, that digitalis is such an extremely valuable drug. It has, however, also an action upon the central nervous system, an inhibitory upon the medullary centers, and this action tends to lengthen the diastole, instead of shorten it, but this does not happen unless large doses are taken and signs of poisoning occur.

According to Cushny, "The blood pressure does not seem to be augmented in man to any extent perceptibly by the methods in use for measuring it clinically, and in some instances it has been decidedly reduced.''

One of the unfortunate actions of digitalis is local action upon the stomach. It is a well-known clinical fact that, when this drug is taken for a prolonged time or in large doses, vomiting occurs. This is probably the direct result of its local action, and not due to its general poisoning effect, although if the dose has been large enough and the drug has been taken during a long period of time, unquestionably some of the vomiting and other untoward symptoms will come about because of the central nervous condition.

THERAPEUTIC INDICATIONS.

The great indication for the use of digitalis is cardiac insufficiency as indicated by the symptom complex of decompensation, dyspnea, cardiac palpitation and edema. Yet all attacks of cardiac insufficiency thus characterized are not helped by the administration of digitalis; indeed, some such cases distinctly contraindicate the use of the drug. The insufficiency which comes from long-continued fever, from septic infection, etc., is but little helped by its use, though certain cases appear to be better for its use.

Cardiac disease, valvular disease, when the heart is fully compensated and there is only the cardiac murmur to indicate any trouble, does not demand the use of digitalis, indeed, this drug is distinctly contraindicated under such conditions. If there is one error which we physicians are prone to commit, it is to administer digitalis on the mere presence of a heart murmur. Indeed the total examination of a heart to some seems to be summed up in the act of auscultation, to discover whether or not a murmur exists. Nothing can be further from the true cardiac examination.

I should describe a proper cardiac examination as follows: A history of the patient is taken. The chest and abdomen are stripped. By inspection one observes the presence or absence of dyspnea, edema, and cyanosis, the extent of the cardiac impulse, the presence or absence of pulsation of the peripheral vessels, the presence or absence of precordial bulging, presence or absence of dilated veins, and movement of the chest wall. By palpation, the rhythm of the heart, the character of the radial pulse and state of the arteries, the presence or absence of cardiac thrill, the presence of liquid in the abdomen, are determined. By percussion, one outlines the cardiac dullness, the liver dullness, and observes any abnormal dullness over the pleural cavities. By auscultation, one confirms what palpation has indicated in regard to the rhythm of the heart, whether there is a gallop rhythm; the character of the sounds of the heart, whether the first sound lacks muscular quality and is valvular, or shows a proper degree of muscular strength, whether it is accentuated or reduplicated; whether the second sound is accentuated or diminished in quality, and, lastly, one observes the presence or the absence of a cardiac murmur. A cardiac murmur *per se* has no therapeutic indication. Above all it does not indicate whether digitalis should or should not be used. It means merely that there is some distortion of the valvular orifices, or that the orifices are dilated.

Finally, where instruments and experience are at hand, the use of recording instruments, such as the polygraph and sphygmomanometer, lends much to the scientific study of obscure cardiac conditions, auricular fibrillation, lack of contraction power of bundle of His, etc. These observations are most desirable and sometimes necessary, but the methods above described fill every essential want.

Until an examination of a patient is made after some such fashion, one can not correctly apply any therapeutic measure, and surely the use of digitalis is not to be thought of without an examination has been made in this manner.

Patients with cardiac dilatation, whether the failure of the left heart is due to valvular disease or to a primary myocarditis, should not be given digitalis, when first seen. Instead the patient must be absolutely still in bed for at least twenty-four hours, so that important therapeutic measures may be tested, and to avoid the danger of over stimulating a heart muscle which is already working to the limit of its capacity. Then the digitalis can be given tentatively, in small doses at first, gradually increasing the dose and feeling one's way with it until the proper degree of stimulation may be obtained. Some patients with primary myocarditis are distinctly harmed by the use of digitalis. There is no "hard and fast rule" by which one can determine the proper cases of this condition in which to use digitalis. As a broad rule, however, those patients with extreme irregularity, anginal pains, and very low pressure, contraindicate the use of the drug. The only safe procedure, however, is to follow the above rule, put the patient to bed and feel one's way with digitalis.

A most improper use of digitalis is its use in cases of broken compensation of slight degree while the patient is on foot and about his business. It is improper, notwithstanding its good symptomatic results, because occasionally the drug stimulates the heart muscle and makes it work against the various local congestions, against the overexertion which is the cause of the symptoms, instead of removing the cause by rest, and then using the drug to tone up the muscle.

After a patient with cardiac symptoms who has gone through a siege of decompensation has recovered, so that it is proper to begin exercise, then digitalis may be continued for some weeks in order to continue the good effects upon the heart muscle. Here, however, one must be most careful to stop the drug when the heart can safely do without its aid; failure to observe this caution will most surely land one exactly in the position he would be, if the drug were used in the beginning of a case before symptoms of failure.

Tachycardia, from nervous conditions, from an essential myocarditis, or from any cause save that of a failure due primarily to valvular insufficiency, is not favorably affected by digitalis. Patients with cardiac failure, with much edema, with scant urine, frequently respond better to full doses of the infusion than to any other form of digitalis. I have in mind a patient, recovering from an acute attack of dilatation of the stomach, with cardiac dilatation who began to fail; the heart became feeble and irregular, and the urine fell to 180 c.c. in twenty-four hours and contained much albumin and many casts. Tincture of digitalis was given without any effect. An efficient infusion was administered with startlingly good results; within a few hours after beginning the preparation a veritable polyuria occurred. This same procedure was followed by like good results in a second attack of cardiac failure in the same patient.

In aneurysm of the arch of the aorta digitalis is contraindicated as a rule, but in certain cases where the heart is failing badly digitalis will tone up the heart and prolong life. Under such circumstances it does not appear to harm the aneurysm. In certain cases of high blood pressure due to faulty cardiac compensation the patient's condition will be much improved by the use of digitalis.

The heart in pneumonia at the acme of the disease frequently begins to dilate and sometimes to intermit, one of the most formidable of symptoms. Here digitalis, hypodermically, occasionally will tide the case over to safety.

As to the dose and method of administration, ten drops or one to one and one-half cubic centimeters of the tincture or seven to fifteen cubic centimeters of the infusion, is the average dose. This must be much increased in certain cases; three cubic centimeters of the tincture and thirty cubic centimeters of the infusion may safely be given every three hours in certain cases. Indeed, in desperate cases of insufficiency, I have repeatedly doubled a large dose with excellent effect. In patients badly water-logged, or with high fever and the stomach dilated and inactive, but little is absorbed and administration by the mouth is useless. Here the drugs should be given hypodermically. Hare states that when digitalis is given hypodermically, it is not absorbed. I am quite sure, however, that I have seen many times, distinct results from its hypodermic use.

The cumulative action, so much talked of especially in former years, is certainly rare. I have notes of but one case in all my work where a sudden poisonous action occurred. Usually too much digitalis is indicated by nausea, vomiting, vertigo, the heart becoming rapid and feeble.

I wish to repeat that unfortunately the various substitutes are as a rule not to be depended upon. The digitalin on the market is certainly inactive. Digitalone and digalen in my hands have given no better results than a good tincture.

To conclude, digitalis must be used in a physiologically tested and freshly prepared specimen. It must not be used in heart disease without symptoms. It is of little value and sometimes harmful in inorganic conditions and in chronic myocarditis.

It is life saving or useless, according to the efficiency of the preparation and the method of its use.

Aortic stenosis derives benefit from digitalis when failure of compensation is accompanied by evidence of backworking through mitral opening. In absence of mitral leakage digitalis may do harm by increasing preëxisting arteriocapillary resistance.—Colbeck.

THE HISTORY OF DIGITALIS.

BY JOHN W. BOYCE, M.D.,
Pittsburgh.

(Read by title in the Section on Medicine of the Medical Society of the State of Pennsylvania, Scranton Session, September 24, 1912.)

Digitalis occupies an absolutely unique position in the materia medica: For a century it has enjoyed the uniform and unbroken confidence of the profession. Of no other remedy of the symptomatic class can this be said. It is true that there are a few drugs whose reputation is equally high; quinin, mercury, iron, serum antidiphthericum would perhaps complete the list. But these are all specific cures, and failure to achieve success with them means either insufficient dose or mistaken diagnosis. This error can, in all the diseases concerned, be corrected by the more or less mechanical processes of the laboratory. However temperamentally unfit a man may be for the practice of medicine he can, by using due care and a gradually increasing dosage, score a large proportion of successes in treating these few diseases.

Besides these we have certain classes of drugs, notably the cathartics, the opiates, and the general anesthetics, which are used to secure very simple effects. These effects follow their use in the sound as well as the sick. They can be demonstrated on animals in the laboratory. Moreover they are so plain to even an unskilled observer that they are well known to the laity. These two facts have saved salts, opium and ether from the attacks of even the most determined nihilists. Even the most advanced scientist covers them with a mental reservation when he discourses on the uselessness of drugs. Beyond this safe area we come on drugs useful only in disease conditions and for purposes that can not be checked by the easy criterion of a cure. Recognition of their effects often requires skill based not only on practice but also on a natural aptitude in the practitioner. Furthermore, their successful use is not the easy matter of the routine application of definite rules. Opinion as to their value is never, therefore, fixed. It fluctuates not only in accordance with the fashion of the time but also from individual to individual. And digitalis is the one drug so successful even in clumsy or careless hands that it rises above these waves of opinion. This is the more remarkable in that we have only recently (if at all) been able to define the condition in which it is useful.

The history of digitalis begins with the year 1776 when Dr. Withering, a physician of the provincial town of Birmingham, so won the confidence of an old grandmother of the neighborhood that she revealed to him the secret of a remedy for dropsy, which had long been handed down in her family. Withering says, "It required only a glance for any one versed in the properties of drugs to see that the fox-glove was the essential ingredient." How he perceived this I can not understand. Digitalis had previously been used as a drastic cathartic; as a dressing for wounds; and as a remedy for consumption. Certain animal experiments had been made but I can not find that they had disclosed any further knowledge of the drug than that when turkeys took it in sufficient doses they died after passing much red excrement. This is, no doubt, an interesting item of pharmodynamics. But the chain of reasoning which connects it with the cure of a dropsy is to me obscure.

It is generally supposed that Withering tested digitalis for ten years before giving his discovery, or rather his theft from old woman's therapeutics, to the world. *A priori* I doubted this, for I know of no remedy of any value which has taken ten years to establish its usefulness. The truth is that within two years Withering was singing the praises of digitalis, not only in the ear of his immediate friends, but to eminent clinicians in London and Edinburgh. With these it met with as ready acceptance as it had with him. Withering's book of 1786 is not an announcement of the discovery, but a protest against the excessive and indiscriminate use into which it had come. Listen to his own words on the subject, "Digitalis was in 1783 admitted to the Edinburgh Pharmacopeia, from which it will soon be dismissed if the present random use of it and the dosage that is customary in London shall continue." This book is a model of purely empirical observation. It must be remembered that cardiac dropsies were to be well treated for half a century before Richard Bright should note the association of dropsy, albuminuria, and kidney lesion. Dropsy was to Withering a primary disease. He accounts for some of the failures, which he frankly reports, on the ground that the dropsy was secondary, as there were evident signs of diseased viscera. He is surprised to find that dropsy of the brain and ovarian dropsy (now known as hydrocephalus and ovarian cyst) were not curable by digitalis. He notes that observers whose accuracy can not be doubted have seen consumption cured by digitalis. These were probably cases of mitral stenosis with cough and hemorrhage. But lacking this clue Withering concluded that there was something wrong with his method of administration and appealed to his readers to continue this line of experiment. We look eagerly for any distinction to accord with the difference between cardiac and renal dropsy, but we look in vain unless it lies in this, "It seldom succeeds in men of great natural strength, of tense fiber, of warm skin, of florid complexion, or in those with a tight and cordy pulse." It is possible that this refers to the high tension pulse of renal disease.

The very free diuresis that follows the proper use of digitalis was supposed to be its essential action. And as late as 1840 we find Watson accounting for its lesser action in renal disease on the ground that damaged kidneys could not respond to stimulation. But many years before it had been noted that the drug caused little or no diuresis in the normal subject, and that there was, therefore, some unknown factor to account for its action in disease. Our ancestors noted the small feeble pulse produced by over dosage and therefore used it as a cardiac depressant in such conditions as aneurysm and, in fevers, including tuberculosis. It is very surprising, in view of the clinical skill with which we credit them, that they never noted the slow full pulse of stronger heart action which is to us its most characteristic effect. To recapitulate, digitalis was introduced into medicine by an old woman; made its way purely on empirical observation; was used for half a century before it was discovered for what condition it was applicable; has been used for more than half a century since under an erroneous notion of its mode of action; and yet that it has therapeutic power has never been questioned by the profession. I know of no other drug that enjoys such a record.

From Withering's time on, digitalis was esteemed a diuretic and echoes of this ancient history appear even in the most recent textbooks.

After Bright's recognition of the fact that practically all dropsies are secondary and fall into one or the other of two classes, it was immediately noted that digitalis was more useful in the cardiac than in the renal. It was not until the era of exact pharmacological observation was inaugurated by H. C. Wood that it was generally recognized that the diuretic effect was too doubtful and uncertain to account for the marked and uniform success in disease.

From this time our efforts to define the digitalis effect have centered on the heart. Wood emphasized the effect of vagal stimulation in slowing the heart and prolonging diastole. This would account very well for cases of mitral stenosis but seemed less convincing as applied to mitral regurgitation. It was quite insufficient when we saw benefit in cases of aortic stenosis or arteriosclerosis; while in aortic regurgitation such action would be distinctly and uniformly injurious. A minor objection to the theory was that with doses equivalent to those ordinarily used therapeutically it is quite impossible to demonstrate a vagal effect.

Two other theories have enjoyed a certain vogue during the last twenty years. One is that the drug improves cardiac nutrition by some direct effect on local metabolism. Many authoritative clinicians seem to flirt with this opinion but so far as I know no one commits himself to it exclusively. It seems equally difficult to either prove or disprove. We may perhaps admit its possibility as a side action or by-effect, particularly if time shall confirm the utility of Prof. Groedel's practice of continuing digitalis in small doses for long periods after compensation is restored. But the benefit from the intravenous injection of digitalis-like glucosids is too prompt for us to admit a nutritional action as the only one.

The other theory demanding consideration is that the drug has a direct effect on the tonicity of the heart muscle and that the true indication for it is a dilated heart from whatever cause. This, it may be mentioned, is the theory that the writer unqualifiedly accepts as corresponding most closely to the practical applications of the drug. The objection urged against it is that marked benefit has followed digitalis in many cases where the observer could not demonstrate any diminution in area of cardiac dullness. No one who has been accustomed to check up his percussion findings by the *x*-ray will attach great importance to this consideration. But whether the theory is true or false it must be admitted that it is at present out of fashion.

Gaskell's analysis of the functions of the heart muscle lead to an era of most promising investigation of this and of other problems. Whether the new school has or has not yet mapped accurately all the Central Africa's of cardiology it is certainly in their direction that our present hope lies.

So far they state that it is in auricular fibrillation that digitalis scores its most striking triumphs. Mackenzie has said that if it were not for its usefulness in this particular condition the drug would never have attained its reputation. But he goes no farther than this. In fact he expressly recognizes its value in many cases where the auricle is in rhythmic contraction. But many of his followers are more loyal than the crown and have long since dismissed from consideration any other theory. As they all recognize that digitalis often causes fibrillation they remind one of the practitioner who always gave his patients something to throw them into fits, because he was "mighty good on fits." It should be noted that they do not hold that digitalis cures as well as causes the fits of fibrillation but that it produces also another pathological mechanism, partial heart block, so that many of the impulses from the auricle are not conducted to the ventricle. The two processes balance each other so that the heart with both is better off than if it had neither. It is very difficult to state fairly, or even to apprehend, such a conception when one has believed for many years that he saw tonic and stimulant effects rather than depression from the administration of digitalis. But the truthful historian, whatever his personal prejudices, must impartially record that such is the supreme fruit of the modern school of cardiology.

DISCUSSION.

ON PAPERS OF DRS. MINER, GUTHRIE, SCHLEITER, TALLEY, NORRIS AND FUSSELL.

Dr. H. A. Hare, Philadelphia: To attempt to discuss the very large subject before us in a period of ten minutes is like trying to write the history of the world on a single sheet of paper. This is the more true because of the fact that in the last few years the physiologist's conception of the heart, as well as that of the pathologist, has changed. Many of the older papers referred to the neurogenic theory in which the nerve centers of the heart originated impulses. All this has been cast into the waste basket and the myogenic theory now holds attention according to which the cardiac contractions are entirely independent of any nervous influence except that coming through extraneous nerves. The contraction is said to take place because of inherent contractility. Brought face to face with the extraordinary changes which take place in disease one can not see a heart which has undergone myocardial degeneration without marveling that, if the myocardial theory is correct, the heart has beat as long as it has in an individual case.

It may be said that the work with the polygraph has to be continued for a considerable time before anything like reliable results can be obtained by the practitioner.

The important point to remember under the newer conception of the mechanism of the heart beat is that every cardiac impulse arises from a small bundle of embryonal tissue where the great veins join the auricle. From this an impulse is radiated which goes to the auriculoventricular junction, passes over His' bundle and then to the walls of the ventricles, one branch going to the left and one to the right. These fibers have been beautifully shown, by Tawara work, to break up like the parts of a fan and then bend on themselves and so distribute the impulses.

Practically every patient who has valvular disease has also myocardial disease. A man with myocardial disease may have some very small lesions in His' bundle which may interfere with the cardiac functions. You give digitalis to one who has a failing heart and there is great improvement; to another, and there is no improvement. You ask why one got well and the other did not. The moment you consider the myogenic theory of contraction you recognize that in the first patient the chief lesion was chiefly valvular; in the second myocardial. Also in the second patient there may have been a small lesion in His' bundle which has been more effective in combating treatment than a larger lesion in another part not so important.

In pneumonia you may give digitalis with brilliant results and you may afterwards have a mortality rate which is alarming. In the second class of cases the myocardium has been so affected that digitalis can not have the same effect as in the first instance. If you know your pathology you will not have your views as to the value of drugs upset.

There are many instances in which digitalis fails, not because it is a poor sample of the drug but because the pathological lesion is such that the vagus can not be acted upon by the digitalis.

Mackenzie gives massive doses of digitalis in auricular fibrillation but he has not, as far as I know, shown why it does good.

Dr. Norris said that many of the things we think raise blood pressure are shown by instruments of precision not to raise the blood pressure. We have passed the day when we attempt to raise or lower blood pressure all over the body. Improvement is often brought about, not because the whole pressure has been sent up, but because the blood congested in the splanchnic area has been sent out where it will do good. This is seen in regard to alcohol. Alcohol does good by equalizing the circulation. The skin is hot and dry and feverish because there is not an adequate supply of blood in the parts. When alcohol is given, the man is better not because his skin is moist, but because the circulation has been equalized.

Dr. James M. Anders, Philadelphia: In reference to the functional rhythmicity of the heart action I am inclined to think that both myogenists and neurogenists are partly right. Whatever the functions of the cardiac nerves and ganglia may be, however the subject is very imperfectly understood. In this connection the very significant fact should be borne in mind that at one period in the embryonal state the heart movements are seen to occur without the presence of any discoverable nerve cells. It was this fundamental fact which constituted in its recognition the first step in the discovery of the function of the bundle of His. The next step was the discovery of the bundle itself. At about that time a case of Stokes-Adams' disease fell under Dr. His' observation. At autopsy it was found that the principal lesion was situated in the central portion of this bundle and then its function was at once strongly suspected and since then, as the result of clinical and pathological observations, has been fully confirmed. Unquestionably, we must turn to the myogenic theory to explain the principal rôle in the rhythmicity of the heart action. We must recognize such functions of the cardiac muscles as excitability, stimulus production, contractility and tonicity, but it is more important to recognize the fact which has been taught us by Mackenzie and others that not all the heart muscles are equally endowed with these various functions. So it happens that where we have irregularity of function as the result of either functional or organic lesion situated in the myocardium, we have certain definite recognized forms of arhythmia. Again, if certain parts of the heart muscle be either overstimulated or exhausted we have symptoms of cardiac failure induced. The aim of the clinician should be, although we can not go far in this direction as yet, to correlate the symptomatology of a given case with the condition of the different functions of the cardiac muscle.

I quite agree with Dr. Talley when he says that auricular fibrillation is a distinct clinical entity. According to my personal experience it must be a very common one. I believe that future observations will confirm those of Lewis who found that of 114 cases of all forms of irregularity of the heart, fifty-four or one half were of this particular variety.

The symptoms of the condition have been well set forth by Dr. Talley. The most frequent cause is mitral disease, particularly mitral stenosis. It should be remembered that the more characteristic symptoms are not clearly manifested when associated with disease of the mitral valve.

With reference to the prognosis of the condition, I have observed that the general profession has been under the impression that it is decidedly unfavorable. I believe that, when a patient is willing not to put forth any unusual exertion, we may give a guardedly favorable prognosis in the majority of the cases at least. Cases due to rheumatism are most benefited by the free use of digitalis. I agree that in the febrile heart the usual cardiac stimulants are much abused in attempting to strengthen the circulation. It is better to maintain the arterial tension by equalizing the circulation than to overstimulate a degenerated myocardium.

I want to call attention to a most useful measure in endeavoring to maintain the peripheral circulation; it is friction of the extremities plus the application of heat.

The chairman made reference to Stokes-Adams' disease. I have seen two instances, most probably of the functional variety, in which the patient recovered under the use of atropin and other measures. Here digitalis in small doses appeared to act beneficially, contrary to what we have noticed in cases due to organic changes in the bundle of His. Two points should be borne in mind in connection with Stokes-Adams' disease: (1) That there is a differentiation to be made between the organic and functional variety of the trouble, remembering that the latter is free from any special danger to life; (2) that we should not give an unfavorable prognosis until we have tried certain measures, more particularly in those cases which are dependent upon syphilitic infection.

Dr. David Riesman, Philadelphia: I should like to give expression to a few words on the use of digitalis. It seems to me that we have been accustomed to pay too much attention to the anatomic condition of the disabled heart and not enough to the functional disturbances. Better results will, I think, be achieved if we look upon our cases of heart disease from the functional rather than from the anatomic standpoint. It really makes little difference which valve or valves are structurally diseased; nor does it make much difference whether the arteries are hard or soft; whether the pressure is high or low—if there is lost compensation as shown by dropsy and passive congestion of the organs digitalis is indicated, no matter what the primary lesion may be. It used to be taught that digitalis is contraindicated in aortic regurgitation. As soon as this condition is accompanied by failing heart action, as shown by swelling about the ankles, by pulmonary congestion, and by other well-known signs in which decompensation may show itself, digitalis is the drug to be used. The same thing applies to Adams-Stokes' disease. As long as there is no dropsy I would not use digitalis in this condition, but when dropsy occurs, with enlargement of the liver, I believe digitalis is indicated even if marked bradycardia is present. I have under observation a man with typical Adams-Stokes' disease, with a pulse which on one occasion was 14, who developed general dropsy, ascites, and enlargement of the liver. I was afraid to give him digitalis and first tried a variety of the newer diuretics. Getting no results I prescribed digitalis, and to my great surprise the dropsy disappeared, the liver shrank, and the ascites became greatly reduced. The man is vastly more comfortable and is up and about, though his pulse is never above forty-two. He himself has come to recognize the value of the digitalis pill he is taking and asks from time to time to be allowed to resume its use.

One point occurs to me at this moment as of interest in connection with Adams-Stokes' disease. A week ago a colleague asked me to see a patient who had had frequent attacks of syncope. The pulse in those attacks was around 50 and a diagnosis of Adams-Stokes' disease had been made. Careful inquiry showed that the man had had similar attacks for twenty-five or thirty years, that his wife had never thought them of much importance, and that he was himself neurotic and came of a highly neurotic family. I drew the conclusion that the case was one of petit mal; the second instance of the kind that has come under my observation.

The point that I rose to make is that in treating diseases of the heart it is a functional condition that we have to treat; and that when there is failing compensation, no matter what the anatomic substratum may be, there is no better drug than digitalis. In my own experience morphin in small doses often helps in the treatment of these cases.

Dr. Oskar Klotz, Pittsburgh: I should like to call the attention of the members to the clinical misuse of the term fibrillation. Prior to the present-day clinical discussion of cardiac fibrillation, the physiologists had made observations on fibrillation of all types of contractile tissue. Furthermore, many descriptions are on record of the study of experimental cardiac fibrillation. These studies indicate that the portion of the heart muscle, in a condition of fibrillation, was unable to bring about contraction, and hence was not capable of producing any effect upon the contents of the cavity which was so affected. In the state of fibrillation the heart muscle fibers were in continuous but not correlated contraction, so that the picture was that of ebullition. He who has once observed a heart in a process of fibrillation will agree that the term *delirium cordis* is very applicable. Furthermore, recent experimental work, particularly by the English investigators, indicates that a heart in a process of fibrillation does not give any evidence of these fibrillary contractions upon the polygraph, and that the electrocardiograph is the best method for its demonstration at the present time.

Surely no one wishes to have us believe that by the finger on the venous or arterial pulse we may recognize fibrillation. For such conditions of trembling irregularity of the pulse the term "heart flutter" is to be preferred. Finally, true fibrillation of the heart is not a disease, but only the manifestation of a disease. It appears particularly in fatigue of the heart muscle, both in an otherwise healthy muscle and in organic heart disease. It may also occur in association with circulatory disturbances of the myocardium or in diseases of the coördinating system of the myocardium.

Dr. William Egbert Robertson, Philadelphia: I do not think it possible for every one to acquire the skill necessary for the proper use of instruments of precision. The many demands made upon the time of the general practicing physician preclude this. It is an undoubted fact, however, that their use gains for one a larger perception, so that he is able to recognize and interpret clinical conditions that otherwise would be foreign to him. He, thus, actually limits the number of cases in which the employment of these instruments is absolutely essential for exact diagnosis.

As to the use of drugs in the treatment of myocardial disease, digitalis, I feel, is a much abused one. Some years ago, I presented a paper before the American Therapeutic Society in which I called attention to the fact that digitalis may sometimes produce cardiac psychoses. This mental phase, often bizarre, at times amounting even to maniacal outbreaks, was first brought to our notice in a sequential manner by Dr. Taylor, an Englishman, about 1840. In cases of advanced myocardial degeneration, it has seemed to me that the use of digitalis has increased the cardiac insufficiency and actually invited psychoses. I have seen several maniacal outbreaks which I think might have been averted, and which ceased from twenty-four to thirty-six hours after the withdrawal of the digitalis. In myocardial degeneration from any cause, it has been my practice for some years, carefully to note both the apical rate and the pulse rate at the time the patient is put to bed. If no slowing of the rate occurs, and no lessening of the tendency to abortive systoles takes place, as evidenced by the discrepancy between apical and pulse rate, in the majority of the cases you will find that digitalis can not be used at all, or, if used, is disappointing in its effects. Morphin in cardiac conditions seems to be used comparatively seldom, and yet it is one of the most valuable remedies. When strychnin is employed, the dose should be large, as much as one fifteenth of a grain may be given every three hours. Strychnin is best given only over short periods. Morphin may be employed in small doses over long periods, measures being taken to counteract constipation, while digitalis should be given only in carefully selected cases.

Dr. Talley, closing: There is a class of cases referred to to-day by Dr. Anders, which for lack of time, I did not reach. These are the cases of fibrillation with the pulse running from 150 to 200. Here digitalis is too slow. The patients should have 20 to 30 minims three to four times a day, but first of all they should have strophanthin, 1/250 grain intravenously every two hours, until the pulse rate is lowered.

The graphic methods of such a case are before you. This man had a pulse of 150. Under strophanthin there was a rapid fall to about 100, with greater regularity. As the digitalis took hold strophanthin was withdrawn. At the end of a week he had marked slowing and already coupling of beats had begun. Coupling is always an indication to withdraw the drugs. Digitalis pushed too far becomes poison. Still later, you see, he has an absolutely regular pulse.

Dr. Schleiter, closing: A feature about medication that should be emphasized is adherence to one preparation of digitalis as much as possible, whether it be the tincture, the infusion or the powder. In this way, one has a more uniform standard in gaining results; I have never been able to observe that changing from one kind of preparation to another is really necessary. After all, the question is not so much whether the preparation is an efficient one, as it is whether the case is suitable for the drug. If it is suitable, the results are pretty sure to come, regardless of the character of the preparation. The indications for digitalis are well defined. It will slow the pulse in nearly every case, if the pulse is of the perpetually irregular type. It will likely affect the pulse in less than thirty per cent. of cases if the rhythm is regular. It is believed that the slowing occasioned by digitalis in cases of auricular fibrillation (perpetually irregular pulse) is in part due to the increase in degree of an already existing impairment of conduction.

Dr. Norris, closing: Practically digitalis will not raise blood pressure in any case. Exceptional instances with an elevation of up to 10 millimeters may be met with. We need, therefore, not to be afraid to give this drug in cases of aneurysm, for example, on account of any danger of increasing arterial tension.

Dr. Anders mentioned friction of the legs in order to improve vasomotor tension. I have found that hot mustard foot baths at intervals of two, three or four hours produced a marked improvement both in mental symptoms and in the peripheral circulation.

Dr. Fussell, closing: I was asked whose preparation of digitalis is the best. My answer is, buy all your drugs from a firm who you know does good work, who tries to make a preparation that is valuable and not one that is cheap. Avoid these mushroom drug houses that are springing up all over the country that are simply commercial in character.

Dr. Hare: In regard to the administration of digitalis, it seems to me that when we talk about administering large doses of this drug we should also talk of what we are trying to accomplish with these large doses. If a man comes under our care whose condition of circulatory failure is such that he seems near to death, 20 drops of digitalis every two, four or six hours, until you bring him to somewhere near the normal point, may be given. But after having so brought him up you do not keep on with these large doses. Cut the doses down and hold him where he is. If a man comes whose circulation has been affected by a long cold drive, you give him whisky once but not to excess. So with the digitalis, but do not keep on with large doses if the man improves. There is no necessity for large doses after two or three days. I think we have all had the experience that in cases of marked cardiac failure 20 minims of digitalis, three times a day, showed good results at the end of the third day, while at the end of a week they showed the effect of too much digitalis.

THE PRESENT STATUS OF THE CATARACT OPERATION.

(Part I., Etiology.)

BY S. D. RISLEY, M.D.,
Philadelphia.

(Read in the Section on Eye, Ear, Nose and Throat Diseases of the Medical Society of the State of Pennsylvania, Scranton Session, September 26, 1912.)

The operation for extraction of cataract must ever remain one of the capital operations in ophthalmic surgery. Nothing could illustrate more vividly its inherent difficulties than the numerous methods which have been devised by each succeeding generation of surgeons, dating back to the dawn of ophthalmic literature. In this respect, our own generation has not proved an exception.

No procedure has been accorded the meed of universal adoption. It is doubtful whether the percentage of successful extractions (using the term in its accepted sense of restoring vision of at least one fifth) has been increased during the past half century, unless such claim can be made for very recent years. If this claim is true, it is due not to increased skill upon the part of the operator or to improved technic so much as to our advanced knowledge of the local pathological states and their dependance upon systemic affections.

A cursory study of the very conservative views usually expressed in textbooks of ophthalmology, published during the past twenty years, reveals an increasing interest in the etiology of opacities of the lens. All authors agree in ascribing to diabetes, and certain other systemic affections, an important rôle in causing cataract, but, passing to the study of the many forms of opacity and varieties of cataract, with unvarying unanimity they focus their interest upon senile cataract and with rare exception leave the impression upon the mind of the reader that its occurrence is one of the many unavoidable concomitants of advancing years. Attempts have been made to connect it with the sclerotic changes in the vascular system, with nephritis and general ill-health, but with a note of uncertainty that falls short of conviction of any essential relation of cause and effect. The most satisfying statement with which I am familiar in textbook literature is found in the last edition of deSchweinitz' admirable treatise. It has been shown repeatedly that the injection or feeding of naphthalene to rabbits would cause opacity of the lens and that cataract or at least opalescence of the lens followed the immersion of frogs in solutions of chlorid of sodium and certain other diffusible salts, or in sugar. Fick (Page 344, 1896) states as examples "numerous cases of cataract which appear as a pathological result of an acute or chronic inflammation or of some noninflammatory disease of the eye" and mentions as examples, diseases of the uveal tract,—iritis, iridocyclitis and choroiditis. He explains the result as apparently due to the deposit of the products of inflammation in the vitreous and in the anterior and posterior chambers; that is, in the tissues adjacent to the lens and therefore bathing its surfaces. He had in mind evidently the "complicated cataracts" recognized by all authors, for in the following paragraph he explains that while these conditions explain many forms of cataract they leave "untouched" the "very commonest," the "senile" cataract, which, he says, occurs as a rule in "healthy persons and in otherwise healthy eyes." Senile cataract, he says, has found no explanation which is at the present day universally accepted. "We know only that age predisposes to cataract. We do not know why." This is, I believe, a fairly correct statement of the textbook teaching of the etiology of hard cataract; that is to say, of opacity of the lens occurring at an age when physiologic change has left the lens hard and inelastic, but which in healthy eyes remain transparent. The acuity of vision with suitable glasses is normal (6/vi.) in the vast majority of aged people. In my experience, both in private and public practice, cataract is a relatively rare occurrence, even after fifty years of age, whether the health is robust or feeble. Reasoning *a priori*, it is therefore plausible to conclude that when opacity of the lens does occur, it must be due to exceptional conditions.

It is the purpose of this study to inquire into these exceptional conditions and to show that the present status of the operations for the removal of the opaque lens must rest largely upon the result of this inquiry; that is, upon our views as to etiology.

There can be no reasonable doubt as to the frequent association of cataract with diabetes, with certain forms of glaucoma, with albuminuric retinitis and the hemorrhagic retinitis of cardiovascular disease. But who will undertake by ophthalmoscopic study of these affections, in their incipient and early stages before the lenticular opacity is sufficiently advanced to prevent a satisfactory study of the ophthalmoscopic field and the vitreous body, to differentiate one of them from the other and say that this is diabetes, this is *glaucoma imminens*, this albuminuric or glycosuric retinitis, etc.; or say that it is not the retinal irritation and edema of septic or toxic origin; or that the honeycombed choroid, fluffy fundus and general impairment of fundus detail is not due to lifelong eye-strain and neglect, or to repeated exacerbations of attack of any one of the systemic maladies which have been enumerated, or uveal disease associated with affections of the sinuses in the anterior segment of the skull?

The observed fact that to immerse a frog in a solution of sugar caused its lenses to become opalescent seems to have been sufficient to have placed diabetes in an isolated place in the minds of two generations of observers, as a lone etiologic factor in the production of cataract: forsooth because there was grape sugar in the blood and lymph streams and in the urine of the afflicted individual, and to have caused to be ignored the fact that the retinochoroidal conditions in diabetes and the other dyscrasias which have been named are essentially similar and are equally powerful in disturbing the function of the uveal tract as the nourishing membrane of the eye. That the sugar in diabetes, although present in about two per cent. of all cataract patients, is responsible for the opacification of the lens has not been satisfactorily demonstrated. Furthermore, it is probable that a careful analysis of all persons at the age of the average cataract patient would detect the intermittent presence of sugar in the urine. This is certainly true in my own study of patients with impaired metabolism and affections of the uveal tract, with or without opacity of the lens.

Since the healthful nutrition of the eyeball in all its parts is so intimately dependent upon the vascular choroid, it is obvious that any disease, local or systemic, which impairs its integrity of function, must be injurious to the health of all the membranes of the eye. But which of these is more likely to suffer than the avascular structures,—the vitreous body, the lens, its capsule and delicate transparent supporting ligaments and the cornea? Moreover, how completely does clinical observation support this *a priori* reasoning? Our clinical observation constantly demonstrates the existence of uveal disease from a great variety of causes and, as sequelæ, a degenerating, fluid vitreous with infiltrates, and posterior capsular, cortical and peripheral opacities in the lens at any time of life from youth to old age.

The character and progress of the lenticular change differs after middle life from that witnessed in younger patients because of the physiologic change in the lens fibers. While this clinical association is so obvious in the vast majority of cataracts, even in old people, the explanation of how the nutritional change in the lens is accomplished is by no means clear. Since the nutrient pabulum in health is secured by imbibition, it is probable that the colloidal supply from an inflamed tissue, as in uveitis from any cause, is so changed in chemical and physical character that it can no longer pass through the capsule or the suspensory system of the lens as in health. It is possible that an analogy may be found in the well-known modification of osmosis through animal membranes produced by changes in the density and character of the fluids in which it is immersed.

I am aware that there is a relatively small group of cataracts coming for operation where there is no demonstrable etiologic factor; where the eye is apparently otherwise healthy and the general health good, but such instances are rare. Even in such examples it is conceivable that the opacity began and progressed as the result of some local disturbance or acute general disease which had proved to be transient, the cataract being a permanent sequel of the disease.

In 1889 I made a painstaking study of all cases of cataract I had seen up to that time, where my notes threw light upon the subject under discussion, and was greatly impressed by the uniformity with which the objective and subjective symptom complex demonstrated the existence of long-standing, often tedious, pathologic processes, which had preceded the impaired vision, finally culminating in the opacity of one or both lenses; asthenopia extending in many cases for many years; headache aggravated by use of the eyes or by exposure to light; irritable eyes with injected conjunctiva and red or swollen caruncles; choroidal disease in a great variety of manifestations; vitreous degeneration. Under treatment, local and general, there had been great relief from the subjective phenomena; that is, the vision improved and the asthenopia disappeared even in people long after middle life; the opalescence and swelling of the lens, the external irritation and the fluffy, woolly honeycombed choroid improved and the opacity of the lens did not advance. These observations were published in 1889 and have been abundantly confirmed by increasing experience. To the original observations have been added a persistent and careful study of systemic states which were found in clinical association with the local conditions, until I have come to regard every study of choroidal and retinal disease, whether associated with opacity of the lens or not, as incomplete which does not include also a study of systemic conditions. To any one who has not done this, its importance in cases of cataract will be a surprise. Cardiovascular disease, auto-intoxication and specific infections are common etiologic factors in the choroidoretinal disease of which the lens opacity is a sequel.

This reasoning finds corroboration in the fact that cataract is essentially an affection of advanced years. It occurs at a time of life when wear and tear is manifested in protean forms,—faulty metabolism, a sclerotic vascular tree, nephritis, impaired digestion, autotoxemia and high blood pressure; a time of life when the results of overwork, harassments, faulty and vicious habits and hereditary trends begin to show their ravishments upon the organism in the form of dyscrasias. The uveal tract of the eye seems especially prone to participation in these functional misfortunes. As sequels to this participation we have certain forms of glaucoma, iritis, degeneration of the vitreous, opacity of the lens. It is only in this sense that cataract is to be regarded as a concomitant of old age. In my clinical experience both in public and private practice, I have but rarely found my cataract patients free from one or more of the manifestations of the diseases of nutrition. Suitable and persistent treatment of these local and general conditions, especially when recognized in their incipiency, has a marked beneficial influence, frequently arresting the ripening of the cataract and in the prolongation of life with useful vision. Failing in this the treatment renders the prognosis of extraction more favorable. I have a firm conviction that many untoward results from operative interference are in a large measure due to our failure to recognize the signal importance of the relationship between cataract, even in the aged to more or less serious local and systemic disease.

The modern status of the cataract operation therefore rests upon our recognition of the essentially pathologic character of the affection; that it occurs not because the individual is old but because of local disease which, in a large percentage of the cases, is a sequel of some general dyscrasia. When this is not apparent it is often due to the fact that, because of the impaired vision, the eyes are no longer used as before; the light is partially excluded by the opaque lens, the strenuous habits of life are perforce abandoned. Under this new régime the uveal tract recovers, the general health improves, and a corresponding favorable prognosis from extraction is justified.

DISCUSSION.

Dr. Lewis H. Taylor, Wilkes-Barre: This is the first time I have ever heard my honored friend and teacher read a paper that was in any way disappointing to me; and in this case there is no disappointment in the quality of the paper, as it is a splendid presentation of the various etiologic factors that might influence our choice of operation and our prognosis. But my own idea of the subject of the paper as it appears on the program is so essentially different from that of the writer that I can hardly discuss it as he has presented it. I had expected that he would give us a résumé of the present status of the cataract operation. He has taken the broader view of the question and I the narrower one.

I confess that it is difficult to give the present status of the operation; for this is constantly changing, and what is the view of the majority of operators to-day may be abandoned tomorrow, to be again revived at a future day. Those of us who have been in practice more than twenty-five years remember well that, when we first saw the cataract operation, we did not see the simple extraction, but always the combined. A few years later, there was a general revival of extraction without iridectomy, and to this many operators adhere, performing the iridectomy only in cases of prolapse or other accident. It is interesting, however, to note that in the past five years the pendulum has swung backward, and I believe that to-day the combined operation is performed far more frequently than any other. In the interesting paper written only a few years ago, Landoldt declared decidedly for the combined operation, abandoning his former position and giving the experience and opinion of many others in favor of what was regarded as the safer operation. The safety of the patient and the preservation of eyesight are the vitally important points of any operation; and it seems to me, from the literature of the subject and from discussions in ophthalmological societies, that the combined operation is regarded as the safest, and, if a preliminary iridectomy be performed, it adds still further to the advantage of the patient. Simple extraction with the round, black pupil is the ideal operation, no doubt, for cosmetic effect; but what signifies cosmetic effect, if you run the slightest risk of endangering the eyesight of the patient?

Various incisions, special technic, use of a speculum or lid elevator, irrigation of anterior chamber or its absence, and kind of knife to use are all merely variations of the individual operator and can not be mentioned here. I presume that if twenty of those present to-day should discuss this paper, we should find the status of the cataract operation presented in twenty different ways.

Dr. Ellett (*Southern Medical Journal*, June) has recently written a paper advocating quite strongly the use of the corneal stitch in cataract operations. This has at various times been advocated, and notably by Kalt of Paris. It does not appeal to me at all; when we do so well without it, I can not see a reason for subjecting the eye to this additional irritation.

The cataract operation of to-day can not be discussed without some mention of the work of Major Smith of India, with his marvelous record of twenty-five thousand operations, the vast majority of which are done by extraction of the lens in the capsule. A number of years ago I operated on an old man, who immediately after the section violently closed his lids, forcing the speculum out upon his cheek, and, to my great surprise, delivering the lens in its capsule. I found it lying on the outside of the closed lids. I thought that the eye would be lost but, on gently opening it, I found a clear black pupil, with no loss of vitreous. A similarly lucky accident, we are told, led Major Smith to study and develop his operation for extraction within the capsule, the operation that is highly lauded by most of those who have seen him operate, and generally condemned by those who have not. While the procedure has a few enthusiastic advocates in this country, the general voice of the profession seems to be against it, as an unsafe operation in the hands of the average operator.

In reference to this operation, and possibly to others, I might add that persons of large experience are in somewhat the same position as Major Smith, although no one else has such an opportunity as he to operate—I will not say to study the cases, for the patients are simply taken in and operated upon in the same garb that they have worn along the dusty road, and without any preparation whatever. He has, for some reason or other, a greater opportunity for operating on cataract. There must be something in the conditions in that country which cause this disease to an extent we do not have in this country. Dr. Green of Dayton, to a limited degree, occupies a similar position, because he has so many old soldiers at the home under his control. I have seen him operate once, and he is a dexterous operator, but I still believe that for the majority of us who are performing a limited number of such operations, this can hardly be a safe one; although in the hands of such men, where it is uniformly successful, it may be the ideal operation.

Dr. Samuel D. Risley, Philadelphia: It is due to Dr. Taylor and the Section to say that the title of the paper makes the discussion of operative technic quite germane, notwithstanding the fact that the paper presented deals only with the pathological significance of cataract. As originally designed it was intended to set forth the modifications in the technic of cataract operations made necessary by the pathologic states of the eye. For example, it would not be wise to attempt extraction of the lens by the simple method in an eye when the pupil does not dilate widely under a mydriatic, for the reason that a rigid iris is significant of uveal disease and suggests a guarded prognosis and a modified operative technic. The paper as presented is a study of the nature and etiology of cataract and is only the first part of the paper as originally designed, since the time limit for the presentation of papers did not permit the elaboration of the operative procedures required in the various forms of cataract resulting from pathological states of the uveal tract and the associated systemic affections.

Dr. Howard F. Pyfer, Norristown: I believe that I should do a wrong to my teacher, Dr. Risley, whom I have followed for the last ten years, if I did not say a word about the results that I have obtained. Accepting cataract as a constitutional condition I treated my patients accordingly. When cataract extractions became necessary my results were fairly successful as to vision and afterwards the patients' general health was better than in the preceding ten to twenty years.

Dr. Risley surprised me this morning by taking the view that sinusitis would produce choroiditis, and that this would incidentally produce cataract. This statement affords food for thought. I should like to limit my practice to the ear, or the nose, or the eye alone, but, since I have heard his statement, I certainly shall not do so. Nor would I advise any young man to do so; for if he did and these patients had an eye condition, they would be treated for the eye alone, and the larger condition of the sinuses and the etiological cause of the eye condition would be neglected. In doing both nose and eye work, the patient after leaving the dark room, as a matter of course, is asked to walk into the other room to have his nose and throat examined. In this way by the discovery of a latent sinusitis future cataract may be prevented.

Dr. John J. Sullivan, Jr., Scranton: Dr. Risley has asked me to report a case. The patient was a miner, fifty-five years of age, sent to me by his family physician. He had a purulent sinusitis on the right side, involving the frontal, ethmoid and sphenoid sinuses. He was referred to an ophthalmologist for a double senile cataract, and it was suggested that he have his nose operated on before the cataracts were removed. He went to a Philadelphia hospital but neglected to tell that he had sinus trouble. The surgeon performed the double cataract operation with immediate success, but nine days afterward an abscess developed and the patient lost the sight of the right eye. The operation on the other eye was successful. He returned home and wanted his sinuses operated on. I found pus in the ethmoid and sphenoid sinuses, which squirted out after I reached the posterior ethmoid cells. Had his nose been examined by the eye surgeon, there would have been a much better result, for the infection of the eyeball probably came from involvement of the posterior ethmoid cells.

Dr. C. J. Kistler, Lehighton: I also had the honor of being one of Dr. Risley's pupils and was at the Wills Eye Hospital with him as house surgeon. His results in cataract operations were splendid, and I have since been trying to follow his treatment along these lines.

An old lady from a distant town called to see me on account of failing vision. There was distinctly noticeable dullness of lenses with fluttering vitreous opacities. She was a woman of full habit, for which she had been treated by her family physician, and she came to me solely for the purpose of having her glasses changed. I had Dr. Risley's teaching in mind and took her blood pressure, which I found to be about 230. I immediately instituted treatment, regulated her diet, and put her on nitroglycerin, with hardly any other treatment. To-day she sees almost perfectly. The vitreous is clear and there is no tendency to lens opacity. I believe that if the condition had been allowed to go on, there would have been a lowered vitality of the eyes with future cataract development. Nothing but systemic treatment was given to lower the blood pressure.

Dr. Wendell Reber, Philadelphia: The etiology of cataract is by no means a settled quantity. We know so little about the beginning changes in the formation of cataract that the most that we are able to do now is to deal with the terminal phase of formed cataract, and operate on it when it has reached what we consider an operable stage. We know little about the significance of differences in the specific gravity of the aqueous, the vitreous and the lens. The inhibition experiments related in Roemer's recent book are interesting, but do not lead anywhere. I am very glad indeed that the matter of the relation of nasal disease to choroidal changes, and to cataract as a final expression of such changes, has been spoken of. I read a paper on this subject last year at Indianapolis before the American Academy of Ophthalmology and Oto-Laryngology, and there were many doubting Thomases present. That cataracts are frequently advanced rapidly by such obstructing nasal conditions, there can no longer be any doubt.

In discussing the operation itself, we have our choice of the combined operation, the simple operation, the combined operation with a preliminary iridectomy, or the operation of Smith, the intracapsular operation. It is probably a safe estimate that few of us operate on more than twenty-five cataracts a year; and the question is, Is one justified in subjecting these people to anything but the safest operation? The patient comes hoping for restoration of sight and cares nothing for brilliancy of operation. The surgeon who has not a large operative field would do best, in my judgment, to do a preliminary iridectomy. Dr. Taylor spoke of

Landolt's paper. Landolt himself was honest enough to follow his convictions and renounce the simple operation.

Six years ago, I presented a paper to this Section on preliminary iridectomy, in which I collated the opinions of one hundred American surgeons and found that a great many of them favored preliminary iridectomy. Dr. Zentmayer of Philadelphia summed up the whole question in saying that "preliminary iridectomy was the ideal operation, when practicable." If the patient lives at a long distance the combined operation will have to be done, but if he is accessible and preliminary iridectomy can be done and the patient come back in from four to six weeks, so that there may be presented a clean, clear, bloodless field, in which every minute step of the operation can be seen, that patient's chances are fifteen to twenty per cent. better than if the whole combined extraction is done at one sitting. I have no apprehension in approaching an eye on which there has been performed a preliminary iridectomy. If I were to be operated on, I should demand this procedure. If anyone near and dear to me were to be operated on for hard cataract, I should consent to nothing else. I believe that it is the safest method. If you want to experiment and do the intracapsular operation, do so; and may the Lord have mercy on your patients! It is a procedure fraught with extreme danger and calls for the highest technic. I have no doubt that many of us have had the experience of Dr. Taylor in which the surgeon makes an incision and the patient does the rest. On the other hand everyone at times will do an extraction on which they pride themselves and yet in spite of the smooth operative result the case goes on to a long, slow, delayed healing, with probably 5/60 vision as the result. That is because that patient did not have a preliminary iridectomy; this would have permitted a study of whatsoever vices were in the blood while the eye was healing, and enable the surgeon to put the patient in the best possible shape for the extraction.

If you want the finest cosmetic results with greatly increased risks, do the simple operation; but you will lose a goodly number of eyes. This operation is beautiful when it results well, and awful when it does not. With the new operator or one of little experience, the mere coaxing of the lens out of the eye is not the critical time of the operation; it is while restoring the pillars of the iris, with the patient getting a little bit tired, when a quick upward movement of the eye, driving the zonule against the point of the spatula, provokes loss of vitreous with all manner of complications.

THE PRESENT STATUS OF THE ARSENICAL TREATMENT OF SYPHILIS.

BY EDWARD MARTIN, M.D.,
Philadelphia.

(Read in the Section on Surgery of the Medical Society of the State of Pennsylvania, Scranton Session, September 25, 1912.)

Salvarsan, a soluble acid salt, precipitated from its watery solution by neutralization with soda, is redissolved by the further addition of soda, the resultant clear yellow alkaline fluid being given intravenously, and as soon as possible after preparation. Since the arsenic content is about thirty-one per cent. and the average dose in a course treatment continued for a week is from one and a half to two grams, the comparative rarity of arsenical poisoning is as surprising as is the promptness with which the obvious lesions of syphilis are cured.

The indication for salvarsan is the presence of syphilitic infection, as suggested by history, obvious lesions, symptoms of such lesions, or the positive Wassermann reaction.

The treatment is applicable to all stages of the active or latent disease. Parasyphilis as instanced by advanced arteriosclerosis, progressive paresis or locomotor ataxia, indeed all the phenomena incident to atrophy and cicatrization rather than to proliferation and infiltration, is, except in its early stage, not favorably influenced; nor is the Wassermann reaction so generally found in such cases, an indication for either mercuric, arsenical or iodid treatment.

In cerebrospinal syphilis the administration of salvarsan has caused fatalities because of a resultant intense congestion, even reaching the stage of hemorrhagic cerebritis and meningitis with necessarily high intracranial tension. Hence special caution and a preliminary course of mercury are indicated in all syphilitic cases giving symptoms of cerebrospinal involvement as suggesed by alteration in temperament, mentality and business capacity, headache and backache, insomnia, tinnitus, vertigo and muscular asthenia. In cases characterized by advanced cardiac insufficiency, hepatic cirrhosis, renal degeneration or intercurrent acute infection of other than spirochætal origin the drug should be used in minimum quantities if at all.

When salvarsan is given properly and in doses suited to individual tolerance it should occasion at the most a slight loss of appetite and a feeling of physical depression lasting not more than twenty-four hours. There is no means of determining individual tolerance; hence in the hands of the most watchful and experienced the drug may poison, either because of its arsenic content and a special susceptibility thereto, or because of toxins liberated by its action upon the spirochætes or upon the tissues of the patient. The post infusion symptoms are all toxic and may be expressed by a transitory malaise, vomiting, severe abdominal pain, diarrhea and profound prostration, angina, headache, somnolence, arsenic exanthemata; exceptionally by coma incident to hemorrhagic encephalitis or inflammatory necrosis of the kidneys and liver, and to death.

Toxic symptoms may develop after the first injection or not until several repetitions; in the later case they are probably due to a cumulative action of the arsenic. Gravely threatening symptoms coming on shortly after injection, simulating anaphylactic phenomena, require an emergency treatment which may be life saving. Since these cases are characterized by low blood and high intracranial pressure, immediate lumbar puncture is indicated, followed by enteroclysis or even venoclysis of normal salt solution. Moreover, Ehrlich endorses the hypodermic injection of caffein and the internal administration of full doses of calcined magnesia. Even in less serious cases attended by meningeal symptoms the lumbar puncture is indicated. It has been shown that the toxic symptoms have often been due to the use of water which, though sterile, contained dead bacteria, these so reacting to salvarsan as to make it actively poisonous.

The dosage of salvarsan is as much as can be taken with the patient feeling as well or better than he did at the beginning of treatment, enjoying his food and not losing weight. In otherwise healthy people in the primary and early secondary stages of the disease, the average dose is two grams given in three portions with intervals of two to five days between, followed by a month of mercurial treatment, so conducted as to produce no deterioration in general well-being, and a final salvarsan injection of such size as previous experience has shown will be tolerated. If cerebrospinal symptoms be present, the mercuric treatment should precede the salvarsan. From a single injection, even a large one, little more than a symptomatic and temporary cure can be expected. The intensive salvarsan and mercuric treatment is directed toward a prompt and permanent cure. It is efficacious in direct proportion to its timeliness. It promises most in the primary stage of the disease. The increasing number of fresh infections following such a course show conclusively that a prompt radical cure is not only possible but is being accomplished more frequently than ever before in the history of syphilis.

In the treatment of tertiary and latent syphilis, courses of salvarsan and mercury are given and their results tested by the Wassermann reaction. Again the rule of the largest doses compatible with the health of the patient obtains. These courses of treatment should not be continued unless it is shown that the general health of the patient is improved thereby or syphilitic lesions are materially benefited.

The intravenous administration of salvarsan is not difficult. It implies water freshly distilled according to the formula of the United States Pharmacopeia. Since it was shown that the majority of toxic reactions in properly selected patients and with a wisely chosen dosage are due to the bacterial content of the water used in solution, Gratz procured samples of distilled water from not only pharmacists but hygienic institutes. The count showed a variation of from 100,000 to 1,000,000 bacteria per cubic centimeter, the best specimen examined implying, if used as a solvent for salvarsan, an injection of at least 6,000,000.

The solution of the drug is accomplished by shaking with glass beads, its precipitation and subsequent alkaline solution are matters of careful trituration. It is usually prepared so hot that it flows into the veins at body temperature. This is, however, a matter of little moment and is attended by some dangers, since the unstable mercuric compound may be altered by heat.

The simplest apparatus is the best since it is readily cleansed and kept so, and is less subject to breakdown at the time of use. The one shown, used by Dr. Swift of the Rockefeller Institute, answers admirably. The glass container, needle and the rubber tube are sterilized by formaldehyd followed by sterile water and alcohol. The needle should be one of fair caliber, with a short-beveled extremely sharp point, indeed it should be freshly sharpened for each use. The surgeon's hands are prepared as for ordinary surgical operations, the patient's skin by iodin. With few exceptions the vein is readily punctured through the skin, if it be made prominent by a proximal circular constriction. The entrance of the needle is shown by a rapid dropping of blood from its lumen. The metal finger of the rubber tube is slipped into the needle socket, the constricting band is removed and the injection is made slowly, with interruptions of two or three seconds each minute. An injection of 250 cubic centimeters should be given in not less than eight or ten minutes. When the glass receiver is emptied the tube is disconnected from the needle, a few drops of blood are allowed to flow from the latter, the thumb is placed over its end and it is jerked out, at the same instant a sterile compress of gauze being pressed firmly against the point of vein puncture. This prevents the subcutaneous extravasation of blood so often noted after venoclysis. This gauze compress is secured by straps or a bandage which should be left in place for at least two hours; thereafter no dressing is needful. The patient should rest quietly for six hours after such an injection and should avoid strenuous occupation, either physical or mental during the entire course of his arsenical treatment. Exceptionally in patients with minute veins an incision under local anesthesia and tying of a small cannula into a blood vessel may be required.

He who administers salvarsan should be prepared with the needful apparatus for enteroclysis, lumbar puncture, and intravenous saline injection since anaphylactoid phenomena may call for emergency treatment.

Neosalvarsan, a derivative of the original drug, coming in a coarser powder and obviously the product of an elaborate research as implied by its number, 914, contains about two thirds as much arsenic as salvarsan, oxidizes and becomes toxic on exposure even more readily than the former drug, but possesses the advantages of being instantly soluble in water and forming a neutral solution. Laboratory tests have shown it to be from five to ten times more potent against some trypanosomes than salvarsan. Clinical trial has demonstrated its at least equal efficiency and its distinctly lesser toxicity. In arsenic content 0.6 gram of salvarsan is equivalent to 0.9 gram of neosalvarsan and the dosage of the latter drug is based on this relation. It exhibits a lessened tendency to cumulative action as instanced by the fact that the prolonged asthenia which so commonly follows either a single large dose or repeated small doses of salvarsan is less frequently observed. Indeed, providing bacteria-free water be used, distilled in glass containing no lead, and the drug be given in moderate doses there is usually no reaction. The administration of neosalvarsan is similar to that of salvarsan, except that its solution is accomplished by simply adding to it sterile bacteria-free cool water (60° F.) in the proportion of 25 c.c. to each 0.15 gm. of the drug, 0.9 gm., the usual full dose, requiring 150 c.c. Ehrlich seems convinced that his new preparation is more available and safer than the old and at least equally efficient. Such are his opportunities for reviewing clinical results that his opinion is of convincing value.

Allowing for the enthusiasm always excited by a new treatment and for the distortion of facts inseparable from such enthusiasm it is obvious that in neosalvarsan we have a drug which with limitations is specific against syphilis which properly given is safe and which, even when it does not radically eliminate the disease, clinically cures not only the average case but many of those which are quite beyond the reach of mercury. Moreover there is growing evidence to show that it radically cures when given early. From which it follows that in all cases of early syphilis repeated doses of neosalvarsan are indicated, supplemented by mercury. The immediate need is that the drug may be so cheapened in its cost of purchase and administration as to make it generally available.

In so far as the laity is concerned, they should be given to understand that a single dose avails but little and that the newer treatment supplements the old but does not replace it.

DISCUSSION.

Dr. H. R. Loux, Philadelphia: Up to the present time we have administered salvarsan 430 times in the Jefferson Hospital; 10 per cent. of these cases were in primary syphilis, 78 per cent. in secondary syphilis, and 12 per cent. in tertiary and parasyphilis. Out of this number of cases, 14 were given neosalvarsan. The 14 cases with which neosalvarsan was used were in patients suffering from secondary syphilis, and from our observation the lesions were not as speedily controlled as when salvarsan was used. This may be owing to the fact that the same dose (6/10) gram) was used, which is 33⅓ per cent. less arsenic than the 6/10 gram of salvarsan.

The only advantage apparent in the administration of neosalvarsan is its simplicity of preparation. It would appear, where the technic can be so simplified, that the profession at large would take advantage of administering neosalvarsan in cases where a history of syphilis is obtainable. The results might be hazardous for the very fact that the general profession to-day is familiar only with the good results and the speedy control of syphilis through this medium, and, were it given in cases with mere history of syphilis without a careful serological study of the blood, we would increase the number of cases already on record which speak of the evil results of this drug.

In our methods of administering salvarsan we use the so-called "vacuum buret" (which has a capacity of 300 c.c.), devised by Drs. Uhle and McKinney of Philadelphia, and placed on the market by Morgan, a Philadelphia druggist. This instrument consists of a vacuum receptacle, devised to retain the temperature of the solution, with a thermometer at the lower portion of the rubber tubing, connecting the reservoir with a platino-iridium needle of eighteen millimeters caliber.

The salvarsan is prepared by dissolving it in 30 c.c. of physiological normal salt solution, at a temperature of 118° F, and is neutralized by adding 15 per cent. sodium hydrate solution drop by drop until fully precipitated and redissolved, forming a clear amber-colored solution. A piece of rubber tubing is placed tightly around the middle of the arm to distend the veins at the bend of the elbow. As a rule there is little or no difficulty in inserting a sharp needle into the lumen of the medium basilic vein or any of its branches. The free flow of blood from the needle shows that the needle is in position. After removing the constriction above the elbow, which should be done at once, the normal salt solution is allowed to flow through the needle into the circulation. The absence of dissemination of the fluid into the cellular structure proves the accuracy of the position of the needle.

Then the solution of salvarsan is poured into the buret and allowed to pass into the circulation. The receptacle and tubing are flushed with 10 c.c. of normal salt solution, so as to insure giving the entire dose and prevent any possible leakage of salvarsan into the cellular structure in the withdrawal of the needle.

There are very few cases in which this technic fails, and we believe that through this simple procedure it is better to use a needle than to expose the vein and destroy its entire function, as you might do were you to use the usual technic of intravenous infusion.

In a very small number of our cases we were obliged to expose the vein because of the enormous quantity of adipose tissue, or possibly because of a dull needle, which required a great deal of effort to penetrate the blood vessel; or because the needle had penetrated the vessel through and through, causing a hematoma to form (the trauma to the vessel being so great that it would not warrant proceeding with the technic just described). In those cases a vein was selected and exposed by incising the skin and following out the usual technic of intravenous infusion.

The immediate effects of salvarsan are upon the *Spirochæta pallida*, which it undoubtedly destroys, and by so doing it controls syphilis. In our observations of primary syphilis, we find that not only do we prohibit the secondary stage, but that when given early the patient does not acquire an adenopathy. This is possibly best illustrated by a case that came under my obervation March 6, 1912, presenting an initial lesion of three weeks' duration, which had every clinical feature of chancre. By laboratory examination we found the spirochæte in the initial sore, and a positive Wassermann reaction plus two. On March 7, 1912, he was given an intravenous injection of salvarsan, 6/10 gram. The initial sore disappeared in ten days after the injection. On March 15 he was given another intravenous injection of 6/10 gram. On March 29 he was given a 3/10 gram intravenous injection of salvarsan. On April 15 the Wassermann reaction was negative. On May 4 he was given his fourth intravenous injection of salvarsan, and on May 14 a blood examination showed a positive Wassermann reaction plus one. On the first of June another blood examination showed it to be negative. On July 5 the blood examination was negative, and on August 5 it proved to be negative. This patient has had no treatment other than by salvarsan, and examination a few days ago showed him to be in a most excellent physical condition, without any manifestation of his infection. This patient, an intelligent man, requested to be treated entirely by salvarsan, having a horror of the use of mercury.

Possibly the best evidence of the speedy control by salvarsan is in cases of mixed infection, where there is a tendency to rapid destruction. In all of these cases salvarsan promptly arrests its progress, and we have found that within a short period of time following the use of salvarsan the spirochætes are not to be found in the lesions, the lesions healing rapidly.

In secondary syphilis the effects are possibly better discerned, especially in the papular type of eruption, in the mucous plaques, the moist papules and the condylomata, which disappear as if by magic after the introduction of salvarsan. So, also, cases of iritis, in which the lesion is not readily controlled by mercury, prompt improvement follows the administration of salvarsan. This is particularly true of those cases that bear mercury poorly. Recently a patient came under my observation in whom specific iritis developed early in the secondary stage. His doctor was unable to give him large doses of mercury, and his maximum dose (a grain and a half of protoiodid daily) caused ptyalism and exerted no influence on his eye condition. He was referred to our hospital for an intravenous injection of salvarsan, which speedily controlled his iritis. So, too, in those cases of marked cellular infiltration we find a prompt restoration of the parts by the use of salvarsan. Another case of importance is one of two months' duration, a patient with an acute specific nephritis. This patient had hyaline and granular casts and blood in his urine, and it was a question whether it was not sufficient contraindication to its use. But the patient insisted on, and his physician requested, the use of salvarsan, owing to the fact that mercury in small doses promptly salivated him. I admit that I gave this patient an intravenous injection of salvarsan with a degree of hesitancy. The patient had been perfectly well prior to his infection, with apparently normal kidneys, which made it seem possible that the kidney was involved in the specific infection; and what is most remarkable in this case is the fact that within forty-eight hours after the introduction of salvarsan there were but a few hyaline casts, and no granular casts or blood. In a few days a report from his physician stated that his urine was normal, and the patient's general health very much improved; and he was without any manifestations of syphilis.

In the tertiary stage of syphilis we likewise have beneficial effects, but under our observations the results are not so quickly manifest, especially in the tubercular syphilides, which such lesions as periostitis and gummatous infiltrations appear to yield promptly to its effects. I have a case which clearly demonstrates the ineffectual control by mercury and the iodids, where large doses of both had been administered without the least effect upon a destructive periostitis of the hand, which was completely cured during a period of one month, by two intravenous injections of salvarsan. This patient had been under intermittent treatment during the past eight years.

In parasyphilitic lesions of the nervous system (lesions of the nervous system with organic destruction) nothing more should be expected than the arrest of the disease by salvarsan.

The greater percentage of our patients have a slight reaction following the use of salvarsan, nothing more in most instances than a transient elevation of temperature and, in some cases, slight nausea and vomiting. This is possibly due to the fact that we exercise the greatest antiseptic precaution in its administration, that we do not permit our patients to be about, they are confined to bed for twenty-four or forty-eight hours. I personally believe that it would be far better for each patient to be confined to bed for forty-eight hours, and that there is considerable danger in the so-called office administration of this drug, and allowing the patient to go home. Such treatment could be carried out where the intramuscular injections were given with possibly less danger than in the intravenous method, but we have discontinued the use of intramuscular injection because of the pain following this treatment, because of the induration of tissue injected, and because of its cumulative power.

In our 430 cases we had two deaths. Both of these deaths were due indirectly to the use of salvarsan, the first being that of a patient with a malignant syphilis. The disease was uncontrollable by the use of mercury. The patient had been on inunctions and on hypodermic injections of calomel, without any apparent evidence of control. He was then given 6/10 gram of salvarsan, which in a few days showed that the lesions were being controlled, and at the expiration of ten days he was given 3/10 gram intramuscularly; this was followed by ptyalism, which was uncontrollable, the patient succumbing to this condition within a period of about six weeks.

The second patient was sent to the hospital from some distance, with a history of a prior course of medication, with the unsoluble salts of mercury, without benefit. He succumbed a few days after his admission, also from ptyalism following an intravenous injection of salvarsan.

It would therefore appear, owing to the cumulative property which the insoluble preparations of mercury have, that the use of salvarsan is contraindicated immediately following a course of insoluble mercury.

There is no question as to the value of salvarsan in diagnosing obscure lesions (where possibly we have no direct history of lues), owing to its prompt control of specific lesions. This is well demonstrated in a patient who has recently come under my observation, with a destructive ulceration of the outer ear. In this case there was no history obtainable of an initial lesion, and there were no clinical evidences other than the lesion on the ear. The Wassermann reaction was positive, and an intravenous injection of salvarsan was followed, in about twelve days, by a prompt healing of the lesion.

While we rely, in a great measure, on the Wassermann reaction, yet we find that it often fluctuates backwards and forwards during the administration of mercury; yet we have established a rule to have a Wassermann reaction, both in our private and dispensary cases, every four weeks until the patient has two or three successive negative reactions, after which the Wassermann reaction is resorted to every three months.

We are in the habit of repeating the use of salvarsan where we have strong Wassermann reactions once or twice within a period of a month, so as to speedily control the disease. We have established a combined treatment of salvarsan and mercury, beginning with the mercurial treatment about ten days following the intravenous of salvarsan.

Dr. Nathanial Ginsburg, Philadelphia: My experience covers injections in some fifty odd cases and while I can not add anything to the therapeutic side of this discussion, I would speak of the possible accidents that happen during the administration of this drug. Very early in the use of salvarsan, Dr. Uhle and I gave an injection employing a solution in which the water used, was sufficiently fresh but we had what seemed to be an anaphylactic reaction in the cessation of respiration and pupillary dilatation. Artificial respiration was required for some time and was followed by recovery. This patient has never required a second injection of salvarsan. I have found that the salt solution given to me in most hospitals was made by the nurses, who employed ordinary table salt without accurate measurement as to quantity. I personally do not use any salt solution at all, and I never give an injection without securing freshly sterilized distilled water and also fresh hydroxid solution. I think these things are very important, because a great deal of difficulty following the administration of salvarsan arises from the improper mixing of the dose. I have known it to be given where the solution was not clear or the water fresh, and have been told by the physician that he was at a loss to account for the necessity of stimulating his patient and practicing the treatment of shock. When the solution is allowed to penetrate the cellular tissue about the vein, it is followed by severe pain and much induration and sometimes a phlegmon. I have experienced thrombosis of the vein and likewise irritation about the vein. The use of glass beads is to be condemned. I have found that, during mixing, glass beads break on the sides of vessels and your solution, unless filtered through sterile paper or gauze, is not safe for administration, owing to the foreign particles which it contains. Filtration through gauze tends to diminish the quantity of the solution, owing to the absorptive qualities of the gauze employed. The injection should, if possible be given in hospitals and preferably in an operating room where everything has been rendered sterile, because patients can be closely watched; often in spite of every precaution reactions will occur. The last experience I had was the substitution by a nurse of Congo red paper for red litmus paper. Personally, I have had to cut down on the vein in stout individuals after I have attempted to puncture with the needle and failed, the resulting hematoma after repeated efforts is considerably worse than a small incision. I do not see how one can hit the vein every time, and if failure attends the first attempt, it seems wiser to me to expose the vein and quickly terminate the procedure.

Dr. Martin, closing: I think Dr. Ginsburg's remarks are directly in line with my feeling that the greater simplicity of the administration of neosalvarsan constitutes one of its major claims to our consideration. I did not enter into the details of the difficulties of the administration. We have all experienced them, the sloughs, the prolonged illness and the operator himself has been troubled in getting the solution in. The dominant note which I wish to convey in my paper is to the effect that the time has come when this drug is no longer on probation, but must be accepted. I had the honor and the pleasure of visiting, with some of my surgical friends, Ehrlich in his laboratory this summer. He is not as big a man as Baldy physically, but instead of the fire of battle there shines in his clear blue eye, kindliness and geniality. He has a bright clear complexion and the joyous ringing laughter of a happy boy. It was an absolutely inspiring visit. Ehrlich has the pulse of Germany and of England in regard to the effects of his drugs. He gets reports from practically all over the world. His judgment as to their comparative efficiency is therefore better than that of any twenty men aside from him and he is enthusiastically in favor of his neosalvarsan. Up until this year my feeling towards the salvarsan and lately the neosalvarsan, has been that if I had the misfortune, and it may happen to any surgeon at any time to contract syphilis, I would wait until these drugs were still further tried on the Germans. I am convinced of their superlative value. I would now without hesitation take a course of arsenic treatment, followed by mercury, then take another course and test out thereafter with Wassermann.

Another function of neosalvarsan is the diagnostic one. As surgeons we can not depend upon the Wassermann in the very cases in which we most need it, the tertiary and latent cases, with lesions simulating neoplasm. In forty per cent. of such cases undoubtedly syphilitic it fails. If salvarsan or neosalvarsan be given in three days often previously negative Wassermann becomes positive if the lesion be one of syphilitic nature.

I should like to accentuate in the first place the recognition of these arsenical preparations as the regular treatment; in the second place the need of supplementary treatment by mercury and, in the third place, the futility of one injection.

Incidentally the drug is entirely too expensive for ordinary use. The drug should be cheaper. Its administration implies no more labor and no greater cleanliness than the ordinary intravenous injection of saline solution. A vessel with tube attached, which is easily cleansed and so kept, and a sharp needle with blunt bevel meets the requirements in so far as tools are concerned. This simple arrangement made by Frank Morgan, answers well. In some of these cases you can not get into the vein without exposing it. Fat people have veins not easily placed by palpation or vision. I can not see why a neosalvarsan injection should rank in costliness with a surgical operation nor why we should not make it available to the poor.

MEDICAL EXPERT TESTIMONY FROM THE LEGAL STANDPOINT.

BY FRANCIS FISHER KANE, ESQ.,
Philadelphia.

(Read at the General Meeting of the Medical Society of the State of Pennsylvania, Scranton Session, September 24, 1912.)

For the last quarter of a century and more the medical and legal professions have been discussing the abuses of expert testimony and the means of remedying them. Many papers have been written, and there is now an extensive literature on the subject, but the abuses are with us still. Can anything be done to lessen them? The question will not ''down,'' and I suppose this is the reason you have honored me with this opportunity of addressing you.

Expert testimony, as Dr. S. Solis-Cohen pointed out in an admirable paper some years ago, includes two different things, deductions and opinions. When the surveyor tells you the number of square feet in a plot of ground, or the navigator tells you his position on the chart, he is stating conclusions which may not be disputed any more than the facts on which they rest, provided his calculations are correct. The same sort of statement is made when the chemist testifies that upon making the proper tests he found a certain quantity of arsenic in a man's stomach. But when a physician says that he believes a woman will never recover from a nervous shock, he is giving you an opinion which may or may not be true. In the courts the distinction is often overlooked, for the two kinds of testimony pass imperceptibly from one into the other and are often given by one and the same witness. It is to medical opinion evidence that I would direct your attention in the remarks that I have to make.

Expert testimony of both kinds is essential to the administration of justice, although lawyers have sometimes been foolish enough to think otherwise. Every day we are growing more and more dependent upon science: it touches us on all sides,—in our trades, our businesses, our professions. We act upon scientific deductions and opinions, and the results of our action in a particular instance can not be predicted without their aid. In such case expert testimony must be employed if the facts and their bearings are to be properly presented to the jury. The judge is not a man of science, neither is the average juror. An interpreter is therefore necessary, who can translate the science of the case into terms that can be understood, and if the interpretation is halting and insufficient, let alone if it be unfair, the trial is not likely to end in the justice we are seeking.

I need not dwell on the abuses of expert testimony as it is at present given. You know them as well as if not better than I do. The point I would have you note is that after years of agitation and debate, after repeated homilies from your profession and mine, after various proposals of reform, none of which have been carried out, expert testimony is still in the mire. It is belittled and reviled by lawyers, judges, and jurymen alike. The public takes it as a joke, and such it would be but for its tragic side. The parties are free to employ what witnesses they please, and as many as they please. They are given "fair play," but, as Professor Pound has remarked in another connection, the parties have so much fair play that the public gets very little.

Newspaper headlines tell us of a "Battle between Experts." There were several on one side saying one thing and several on the other denying it. The jury split the difference. This was not justice. The truth did not lie evenly between the two extremes, and the jury should have been able to determine in some way, and to some extent at least, where it did lie. Remember that if Solomon's strategem had not succeeded, neither of the poor women would have received more than half of a dead child. Neither litigant would have got what she deserved.

Dean Wigmore of Northwestern University, in an interesting passage in his book on evidence, says that "much has been declaimed about the partisanship and consequent untrustworthiness of the usual professional man as an expert witness. But it does not appear that the professional man is more biased or more corrupt than the ordinary law witness." This, you will admit, is generous of Mr. Wigmore! "It is," he says, "merely that the expert's bias or pecuniary subserviency, when it is discovered, is in a more marked and unpleasant contrast with that ideal of impartiality and trustworthiness which is naturally associated with abstract scientific truth. So, too, the frequent inconclusiveness, uncertainty and contradiction of expert testimony are not more radical than the same baffling features of testimony founded on ordinary observation by the layman's senses. They merely disappoint more sharply our usual conceptions of the accuracy of scientific knowledge. It is a question whether either of these popular (and natural) ideals is attainable at all."

This does not seem to me to answer the question we are asking. We do not expect to resolve opinions into facts, or even into deductions in the sense that I have used the word. In the empirical sciences there will always be matters of mere opinion. This of course we admit. But is our present system the best that can be devised for getting the expert's real opinion before the jury? Do we not get instead an opinion affected by adventitious influences? Of course we do, but you answer that these adventitious influences are inseparable to all other forms of testimony as given under our common law procedure. We reply that expert evidence is not like other testimony; it is *sui generis.* A man's opinion is different from a fact observable by the senses. A fact is objective; an opinion is subjective. It is something intangible, the result of mental action, valuable only if it be the result of honest thinking, and valueless if it is insincere. It can not be contradicted in the same manner as a statement of fact. For these reasons opinion evidence is peculiarly liable to infection from partisanship and prejudice, to say nothing of the baser influence of money. We should recognize the infirmity of its constitution, its helplessness, and we should protect it as far as we are able. We should not cast it forth, as it were, to the tender mercy of the contending parties, to shift for itself like other testimony. Expert witnesses should not be called by the parties, and paid by them. Least of all should they be allowed such fees as the parties see fit to pay them.

The position of an expert adviser in a

law case is in all respects an honorable one. His duty is to assist the lawyer in the preparation and presentation of the case, and without such assistance the obtaining of a just verdict would often be impossible. But the expert adviser is in essence an advocate, and the advocate is not a witness. His duty is to argue, not testify. This distinction is not always appreciated by the public, neither has it been always recognized by learned men. You will remember the answer that Dr. Johnson gave to Boswell when asked how it was possible for a lawyer to defend a guilty client and still be an honest man. "Why sir," said Dr. Johnson, "when defending the guilty man the lawyer is in court. You do not expect a clown to walk on his hands in daily life because he turns somersaults in the ring." You, gentlemen, when you are expert witnesses are not in the ring, and you therefore have not the privilege of turning somersaults. In the eye of the law you are witnesses, not advocates, and you are sworn to tell the whole truth, as well as the truth, and nothing but the truth. This is, of course, the reason why an expert witness can not honorably stipulate for a fee contingent upon the success of the case, although, I take it, many a charitable physician feels compelled to give a poor man the benefit of his expert testimony and trust for his fee to the chances of the verdict.

In an accident case (and it will be remembered that accident cases at present form about two thirds of our litigation), the plaintiff's lawyer seeks aid and counsel from the family physician, and then from an expert, if he calls one in, and the defendant, if it be a public service corporation, puts one of its regular physicians on the case. The expert for the defendant examines the plaintiff in the presence of the family physician, but there is no real sharing of each other's thoughts about the case. If a specialist is afterwards called in by the plaintiff, it is safe to say he never meets the expert employed by the defendant. Unconsciously or consciously, the physicians do the work of expert advisers for their respective employers, and all the self-denying resolutions which your society may adopt will not prevent you from being led into this trap. If you are employed as experts, you will be expected to perform both duties; you will be expected to coach your employer and testify upon the stand. I have even seen a specialist of great distinction sit beside a lawyer and tell him what questions he should ask the family physician, who had gone into the witness box, in order that the ground might be properly prepared for the opinion evidence which the expert was afterwards to give. The expert here sowed the grain which his employer was afterwards to reap, and yet he was sworn to tell the whole truth!

Let us consider carefully what happens in a murder case where the defense is insanity. The defendant's lawyer consults an alienist. He consults several, it may be, going from one to another as long as his client's purse holds out. When a life is in the balance, a lawyer is not bothered by fine distinctions. The prosecution also retains its experts. The district attorney and the defendant's lawyer place only their sides before their experts, and receive the benefit of their opinions. There are repeated interviews and discussions. Books are referred to, and inevitably, although the expert may not like it, he becomes the adviser of the lawyer—a coach, or assistant, call it what you will. Insensibly he thus becomes an advocate, and when he goes to court he has a theory to maintain. It could not be otherwise, the laws of the human mind being what they are. Finally, when on the stand, instead of being allowed to state in his own way his own opinion of the case, he is asked questions which are so framed as to cover only his employer's side, and he is hampered at every turn by technical rules of evidence, made for the most part to fit not the kind of testimony he is giving, but that of the ordinary witness. To cap the climax, a hypothetical question ("the hypothesis abominable," as Dr. Frazer used to call it) is reeled off to him, and he is expected to give his answer in a monosyllable with his explanation afterwards. He is driven by a cross-examination more and more into the position of an advocate, and the only wonder is that he has anything of the judicial left in him at the close of the case.

Mark you, I have said nothing about remuneration. The majority of physicians are honorable men, and as I am thinking of the majority—the average expert, I would ignore this element as much as possible. The expert should receive a proper compensation for his services, and this will, of course, be more than the *per diem* of an ordinary witness. The expert gives us what, after all, is his own property, his opinion, which he is free to part with or not as he sees fit. We do not ask him for a mere narration of fact; we ask him for what it may have taken years of study to acquire; and we ask him also to give us of his time in preparing the particular case. It is right that he should be paid a proper fee for this. Nevertheless, he is a witness, and we exact from him a free judicial exercise of opinion. The two things do not go together. We are seeking the impossible. We are trying to drive a square wedge into a round hole. We have made the expert a partisan and we expect him to be fair. We have put him in service to two masters.

Human justice, you will say, is at best only an approximation. That is quite true, and as long as human nature remains what it is, an absolute balance may be unattainable, but let us not put unnecessary weights into one scale. We admit that all witnesses, no matter how employed, are liable to prejudice and bias. All that we ask is that these evils be minimized in the case of one special class of witnesses, whose testimony, as we have seen, is from its nature peculiarly susceptible to such influences. This is all we ask, and we believe that it can be accomplished by a simple change of method. If the new system does not work well, it can be altered. Or, we can return to the old system, and no irremediable evil will be done.

Some fourteen years ago Judge Endlich, than whom there is no more careful and conscientious judge upon the bench, read an able paper before our Pennsylvania Bar Association on this troublesome question. He reviewed what had been written up to date and with great fairness analyzed the evils, and his conclusion was that the fault lay not in expert testimony, but in the way we handle it. He recommended changes in the law along the following lines: (1) The formulation of a stricter definition of expert testimony. (2) The reasonable limitation of the number of experts to be called in any case. (3) The designation of such experts by the court upon nomination by the parties. (4) The abolition of the hypothetical question. (5) The summoning by the trial judge of an expert of his own choice to serve as assessor, or as a witness to review the testimony already in, or as both. (6) The payment of expert witnesses out of the public treasury, at least in the first instance.

Judge Endlich sketched an Act of Assembly embodying these ideas, and such a bill was carefully drawn and the following year submitted to the association. Unfortunately, a discussion arose, the matter was referred to a new committee, that committee reported the following year an emasculated bill, which was barely approved of by the association, there being only a majority of three in favor of it. The movement came to nothing. A number of our strongest members agreed with

Judge Endlich, and still agree with him, but others were disposed to let the thing alone; and any movement for reform in this branch of legal procedure in Pennsylvania must now be started by your profession rather than mine. I shall, however, append to this paper a copy of the law drafted to meet Judge Endlich's suggestions, and I earnestly hope some day to see it in the statute book.

Outside of Pennsylvania there has been much agitation of the subject, but very little legislation. In Wisconsin, there is a law that no one except a licensed physician shall be accepted as a medical expert. Such a statute would be quite superfluous in Pennsylvania, for our courts at present accept only licensed physicians. On the other hand, there is a great need for a stricter definition of expert capacity. Although the courts have it in their power to rule out charlatans, and can refuse to hear a witness who proves himself unlearned in his particular branch of science, our judges are too easy-going in this matter and a statute is needed to stiffen their backs.

It is clear that we should have no permanent boards of official experts appointed by the courts. That would be giving our judges additional patronage, and we are all agreed that what patronage they now have should be taken from them. The appointment of experts as each case arises and on the nomination of the parties is an entirely different matter. This would not be "patronage" but the exercise of a purely judicial function, and while we are all agreed that political power should be taken from our judges, we believe that their judicial power and responsibility should be increased. This is the real way to improve the judiciary, although the people do not realize it. Of course there is another reason why the appointment of permanent boards of experts would be an unsatisfactory solution of the problem. It would be impossible to include in one list in advance the specialists required to meet the demands of each particular case as it arises.

The expert witness or witnesses must be appointed by the judge. They must be examined first by him and afterwards by the lawyers for the parties. This method now obtains in divorce cases in Philadelphia County, where a rule of court provides that the witness shall be examined by the master before they are turned over to counsel. The expert witness must also be paid, in the first instance at least, by the county. Afterwards his fees may be charged against the losing party. By leaving to the judge the preliminary question of whether or not the calling of an expert or experts is necessary, the public will be amply protected in the matter of expense.

Should the court's prerogative preclude the right of the parties to examine experts of their own choosing afterwards? It is very clear to the writer that it should. If it is wrong in theory to allow expert witnesses to be employed and paid by the parties, the practice should be wholly done away with.

It has been questioned whether the legislature may in criminal cases provide for the appointment of experts by the court. Judge Endlich discussed the matter in his address and reached the conclusion that our Pennsylvania Legislature could. The reasons which he gave were so convincing that I believe our legislature would be fully justified in passing such a bill as he suggested. Still, it is only fair to tell you that in Michigan an expert witness law applicable to homicide cases has been declared unconstitutional, and I notice that among the amendments to the Ohio Constitution, recently approved by the voters.was one allowing the legislature to change the law in this respect. The story of what happened in Michigan is as follows. After years of agitation an act was passed in 1909 providing that the court should in homicide cases, when occasion required, appoint one or more experts to investigate and testify at the trial, their compensation to be fixed by the judge and paid by the county. It was provided that the fact of such appointment should be made known to the jury, but that neither the prosecution nor the defense should be precluded from calling other expert witnesses. This, in the opinion of most lawyers, amply safeguarded the constitutional rights of a criminal defendant in the State of Michigan, where there is no provision in the constitution, as there is in some states, reserving expressly to the defendant in a criminal case the right to choose and summon his own witnesses. There was only the usual clause providing that no person shall be deprived of life, liberty, or property without due process of law, and yet the state Supreme Court held the principal section of the act unconstitutional. If the judge has the right (so the court argued) to appoint expert witnesses, the jury will listen to them rather than to the experts summoned by the defendant, and the effect of this will be a denial of his liberty and life without due process of law. With all due respect to the Supreme Court of Michigan, this seems to the writer an absurd conclusion. The act did not prevent the parties from cross-examining the court-appointed experts. In fact the law had been so construed in practice, and the parties had the right to call what experts they pleased after the court experts had been examined. When also it is remembered that it is part of the court's duty under the common law to call witnesses when justice requires it in criminal cases, it would seem preposterous to argue that the imposition of this duty by statute in cases calling for expert testimony was a denial of the defendant's constitutional rights. The defendant, a convicted murderer, had to be tried over again. He is now, after a second trial and two appeals, in the state prison serving a life sentence. It is decisions of this kind that have given the enemies of the courts occasion to blaspheme, and to claim that our judges are behind the times and not alive to the needs of reform. I can only assure you that I believe such a decision would not be handed down in Pennsylvania. There are too many good lawyers in our state who think that Judge Endlich's proposals were entirely constitutional, and those proposals went much further than the Michigan law.

Rhode Island passed an act in 1909, which leaves it to the discretion of the court, upon motion of either party, in civil or criminal cases, to appoint one or more experts, the fees to be fixed by the court, paid by the party who asks for the appointment, and ultimately charged up as part of the costs in the case. In criminal cases the court may direct that the fees be paid by the state. The experts make the necessary examination into the facts, or of the person, if it be a damage suit for personal injuries, and report their conclusions to the court. They are subject to call and cross-examination by the parties. I am assured by a well-known lawyer in Providence that this legislation has proved satisfactory.

In England statutory provision has been made from time to time for the appointment of "assessors" to aid the courts. How far this helps matters I do not know. It is provided by Act of Parliament that the county courts may, on the application of either party, call in as assessor "one or more persons of skill and experience as to the matters in dispute,"[1] and special provision has been made for the appointment of assessors in employer's liability cases and in many other instances: for example, in patent litigation, etc. It is interesting to note that in the Industrial Accidents Law, drafted this year by our commission in Pennsylvania, provision is made for the appointment of experts by the court, when because of dispute litigation becomes necessary. This provision, it is hoped, will be enacted next year with the rest of the proposed act.

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[1] County Courts Act, 1888, Sec. 103.

In New York the State Bar Association has recently formulated a law for the appointment and compensation of expert witnesses by order of the court, subject to the right of each party to call additional experts, and in Maine a bill has been prepared along lines suggested by Chief Justice Emery of that state, which, if approved by the legislature, will have the same effect.

It is quite true that in thus providing for the appointment of expert witnesses by the court we are borrowing from the methods of the civil law as enforced on the continent of Europe, but, gentlemen, you need not be afraid of this small importation of foreign product! In continental countries there are boards of experts whose members upon special appointment testify orally or transmit their findings in writing to the court. There is a great difference between this and the system proposed by Judge Endlich, under which, as we have said, the expert or experts are appointed only for the particular case on nomination of the parties, and give their testimony in open court, submitting themselves to subsequent cross-examination. This saves to the defendant in a criminal case his constitutional right to confront the witnesses against him, and affords an ample opportunity for extracting the truth. There need be no fear that the jury will be misled by the sanctity of a court appointment under such circumstances. The jury will make their own deductions after the cross examination is concluded.

The time has passed for us to make a fetish of the common law. We should approve what is good, and abandon what is bad, or in modifying our procedure, blend with the common law something of the civil law, if common sense requires it. This is the true spirit in which we should approach this expert witness problem.

President Taft has said there is no reform so urgent at present as the reform of our legal procedure, and let me add there is no part of that procedure which more demands reform than this matter of expert testimony. In saying this I do not ask you to lessen your endeavors in the fight to raise and maintain professional standards. Much remains to be done in the field of ethics by your profession and mine, but as regards this particular matter of expert testimony your profession is at present at a disadvantage, and it will continue to be until we change the system under which expert testimony is given.

MEDICAL EXPERT TESTIMONY FROM THE MEDICAL STANDPOINT.

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I am quite sure that I voice the sentiments of our society when I express the pleasure that we have all experienced in listening to the admirable address of Mr. Kane. There can be no doubt that many of the criticisms which he has advanced are just, and yet others, especially those which deal with the differences in expert testimony, I believe to be unjust.

Expert evidence, as he has pointed out, differs from ordinary evidence in that it is opinion evidence. The testimony of non-expert witnesses consists in the recital of facts, facts seen, heard, or otherwise perceived by them. The testimony of an expert consists in the giving of opinion. The opinion may be based, first upon facts observed by the expert himself, secondly upon facts testified to by others, and thirdly upon facts embodied in a hypothetical question. The facts observed by himself are of course a part of the expert's testimony in chief, and logically precede the giving of his opinion. Quite commonly these facts are technical in character and require, for their determination, technical training. Essentially, however, the position of an expert is that of a witness who draws inferences from facts presented, such inferences being justified by the special knowledge which he is supposed to have.

Under our laws, any witness may qualify as an expert but the fact that a witness really possesses expert or technical knowledge should be clearly presented by counsel. If this be not done, the court may so interrogate the witness as to place his qualifications clearly and unmistakably before the jury. When counsels do their duty, there is no danger of the testimony of an improperly qualified person having undue weight. If an improperly qualified person is placed upon the stand, one or two questions by counsel or court will at once reveal the truth. An expert witness is one supposed to have special knowledge of the subject under investigation and the jury are quite able to correctly judge of this fact. They hear of the opportunities which the witness has had for acquiring special knowledge; namely, his experience in institutions, the positions which he holds or has held, the original papers, monographs, or books that he has written, or investigations that he has conducted. Under these circumstances they have no difficulty in taking a proper measure of the man before them. The jury commonly form quite correct judgments even of the relative merits of men pursuing the same departments of knowledge. They are impressed as are others by age, wealth of experience and general reputation and, last but not least, the personality of the witness, whether he is honest, whether he is telling the truth as best he can.

Every now and then a physician called to give expert testimony acquires involuntarily or even subconsciously a personal bias. Not every one is blessed with a judicial temperament, *i. e.*, with the faculty of making cold, scientific, impersonal abstractions. Sometimes too the circumstances of a case are such that the expert becomes interested and almost involuntarily a sentiment or emotion is aroused for the side by which he is called. This leads at times to the expert mistaking altogether the nature of his functions. Instead of regarding himself merely as a witness in the trial of a case, he regards himself as and assumes the rôle of counsel. That such an attitude leads unavoidably to distortion of facts and to malpresentation of evidence and that it hopelessly impairs the position of the expert, goes without saying. The expert has, it is true, a function to perform in addition to giving his testimony upon the witness stand, but this does not consist in his trying the case. His proper function begins long before the trial and consists in the discharge of a duty which he owes to the counsel employing him. Just as soon as an expert is in possession of the scientific facts of a case and has formed an opinion, he should present both facts and opinion to the counsel. The opinion should be frank and full without regard to the contention of the side employing the expert. If the opinion is such that the counsel finds it unfavorable, counsel may determine upon an entirely new course or may abandon a given line of prosecution or defense; or may, perhaps, dismiss his expert and employ another, which he has a perfect right to do. If the opinion is favorable, it should, in any event, be presented in such a way that all of the facts, whether favorable or unfavorable, are presented with equal force, Such a course is the only right course, it is demanded in simple justice to the counsel himself. The latter should be in full possession of the unfavorable as well as the favorable facts of his case; besides, the expert, by taking into consideration all of the unfavorable as well as the favorable facts, is able to formulate an opinion so secure as to be unassailable. This is the only logical course, it is the only proper and the only safe course. Everything depends upon the initial honesty of the expert in his conference with the counsel employing him.

It is a good plan for an expert witness, after having formed his opinion, to rearray the facts in his mind and to see how they would favor a conclusion opposite to that which he has reached. He should bear in mind that a contrary conclusion may be advocated by opposing experts. A critical review of the case will inconceivably strengthen the opinion at which he arrived as it will eliminate all points of doubt and weakness. If an opinion is justified, surely it ought to be able to withstand the expert's own criticism, let alone the criticism of opposing experts and the cross-examination of the opposing counsel.

One of the difficulties which physicians now and then encounter when they appear in the rôle of an expert is due, first, to the lack of knowledge of the nature of evidence and, secondly, to an inability to translate technical terms and expressions into everyday lay language, such as the jury can readily comprehend. If the doctor has made a clinical examination or perhaps a chemical analysis, he should confine himself to the mere enumeration of facts and to a logical deduction based upon these facts. He should never indulge in generalizations, nor should he cite illustrations which may or may not have a bearing upon the case in question. Least of all should he deal with facts which he has not himself observed existing in the case before him. Not infrequently I have seen a medical witness present his evidence in such a way as to arouse repeated objections by the opposing counsel and repeated warnings by the court and have seen the expert testimony become so confused that the real or essential parts were not properly developed before the jury or perhaps were entirely forgotten. Under these circumstances I have known the testimony of the expert to be so much impaired as to be of very little value.

The testimony, it is needless to say, should be presented in as systematic a way as possible. General facts should be stated first; special facts subsequently. Again in the presentation of the facts the witness should remember that he can testify to such facts only as are objective in their nature. Thus, in a suit for personal injuries, the expert can testify to such objective symptoms as posture, gait, the presence of scars or physical deformity, the reaction of the patient to various tests, the condition of the circulation, of the surface of the body, of the various special organs, or of other facts evident to his, the expert's, senses. There are other facts which come to his knowledge in the course of his investigations to which he can not testify: these are the so-called subjective symptoms. They constitute facts of which the patient alone can be conscious, which the patient alone can feel, of which he alone can be aware by actual knowledge. However, while the expert can not testify to subjective symptoms, it is perfectly proper for him to add, after a full presentation of the physical facts, that, in addition to the facts observed, he received a statement of subjective symptoms consonant with the symptoms observed by himself. There is another group of symptoms which, though objective in their nature, are also usually beyond the personal knowledge of the physician—phenomena which he himself has not or perhaps can not observe and has no means of verifying; among these are restlessness at night, frequency of micturition, menstrual disturbances, or perhaps loss of appetite or the condition of the bowels. Of course, if both the subjective symptoms and this group of nonverifiable symptoms have been testified to by the plaintiff, the expert may take them into consideration in forming his opinion.

In regard to the use of technical terms, it can not be too strongly insisted upon that their employment is as objectionable as it is usually unnecessary. There are very few scientific statements which can not be rendered into language so simple that the ordinary layman can comprehend them. Especially is this true of the injuries presented by plaintiffs in damage cases and of the mental symptoms in cases of insanity. Every now and then the testimony of an expert is made worthless by the use of technical terms which obscure and do not elucidate. Further too under these circumstances the expert may be subjected to frequent and annoying interruptions both by counsel and court, who may direct him to use language which the court and jury can understand.

Similar remarks apply to questions on insanity and to testimony in regard to wills. As regards insanity the statement should embrace the place and date of the examination, the names of those who were present, the greetings (if any) exchanged with the person under examination, the demeanor, the conduct of the latter, the things that he said and did, his answers to questions, a statement as to the existence of hallucinations, delusions, and other mental symptoms if present, and finally an enumeration of the various physical signs.

In will cases it is best for the expert to confer with counsel in the preparation of the hypothetical question usually necessary. The expert is rarely a witness of fact; that is, he has rarely had the opportunity of examining the testator during the latter's lifetime. The hypothetical question should consist of a simple recital of the facts presented by the history essential to establishing either the sanity or insanity of the testator. As a rule, the question is uselessly and absurdly long, so long indeed that the jury will not and, indeed, can not follow it; there are but few cases in which a condensed summary of the facts is not possible. Facts of but slight significance, of but little relevancy to the issue, had best be omitted; first because they are not necessary, and secondly because they are a source of weakness in giving an opportunity for a cross-examination which diverts the attention of the jury and befogs the issue. In replying to a hypothetical question, it is usually merely necessary for the expert to reply in the affirmative or in the negative without making any qualifications. However, if a hypothetical question has been prepared by opposing counsel, a reply in the affirmative or negative may be possible, but usually qualifications are necessary.

During cross-examination, the witness should be as open and as frank in his replies to questions asked by the cross-examiner as to the questions proposed by his own counsel. He should avoid any undue reserve or even the appearance of hedging, for the latter always gives rise to the idea that the witness is more or less biased. The answers should be brief and whenever possible consist of a simple affirmative or negative. If a qualification is necessary, this should be stated in as simple and as brief language as possible, though as fully as necessary. The expert witness should bear in mind that he is not the counsel in the case, and that he has nothing to do with the outcome. His answers should be scientifically accurate. The counsel employing him will usually ask in redirect examination such questions as will tend to clear up or reaffirm points which the opposing counsel may have in cross-examination obscured, minimized or perhaps distorted.

A matter concerning which there is a gross misconception and often improper comment both by the public and the lay press relates to the differences of opinion not infrequently shown by experts. Indeed these differences are treated in the light of a reproach upon the scientific knowledge and the integrity of the profession. This reproach I believe to be largely unjustified. In the first place, in a very large number of cases, notably in suits for personal injuries, the differences of opinion regarding the actual findings are usually slight; it is only as to the outcome that much divergence of opinion may be noted, and here differences of opinion are frequently entirely legitimate. So it is with questions of mental disease. The differences of opinion are usually not as to the actual findings, but merely as to their interpretation. Usually the questions upon which experts divide are as to whether the findings do or do not justify the diagnosis of insanity, and here again differences of opinion may arise which may be perfectly legitimate. Particularly is this true when we reflect that a very large number of the criminals and other persons whose sanity is the subject of inquiry really constitute borderland cases. Furthermore, cases are constantly met with into which litigation does not enter, concerning which doubt arises and concerning which physicians differ. Note, for instance, the lucid cases of melancholia which some physicians refuse to commit and others insist upon committing to institutions. In other words, experts may differ, differ legitimately and honestly, and the difference is usually about borderland questions; after all, it is the function of the jury to decide these, and in the observation of the writer the decision of the jury is usually in accord with justice and with common sense.

In every department of knowledge similar differences of opinion are developed. The very judges upon the bench differ from each other; they not infrequently hand down dissenting opinions, and the upper courts reverse the lower. Indeed, I am credibly informed that in the highest tribunal of the country, the Supreme Court of the United States, dissenting opinions are handed down in a large percentage of cases. Quite frequently the opinions are in direct opposition to each other, differing upon such fundamental questions as to what is and what is not constitutional, or upon other matters which to the lay mind seem equally elementary and concerning which, according to lay ignorance, there should be no differences of opinion. The facts become still more impressive when we reflect that the members of the tribunal are experts of the highest order and whose honesty and integrity stand on a plane equally high with their learning. Again, the expert opinions of the courts are upon cases stated, and the differences arising have to do with the interpretation of facts, with the application of principles, with divergent points of view. If it is perfectly normal for differences of opinion to arise among these highest of experts, it can not be surprising that a similar condition obtains when the questions are medical, when the facts are less definite, less readily determined, when of necessity the personal equation plays a larger rôle, and when there must be a greater range of individual interpretation. And yet I venture to say, in spite of the impression to the contrary, that the differences of opinion obtaining among medical experts are on the whole no more frequent and no more divergent than those obtaining in the high tribunals.

It is obvious that no plan can be devised which will do away with differences in expert opinion. As long as men are honest these differences will exist. An expedient devised long ago has created a body whose special function it is to weigh, reconcile or cancel these and other differences in testimony; namely, the jury. The expert should remember that he is not the jury, no more than he is the counsel or the court. He is simply a witness whose business it is to tell the truth as best he can.

DISCUSSION.

ON PAPERS OF MR. KANE AND DR. DERCUM.

Dr. George C. Johnston, Pittsburgh: This subject is of exceeding interest to me and the presentation as given by Mr. Kane is one of the best and by far the fairest I have ever heard. The presentation from the medical standpoint, of course, is what is to be expected from the gentleman who read the paper. The question is one that is of extreme importance at the present time because of the many new thoughts of all sorts claiming attention. It has become fashionable to ridicule the medical witness. In contradistinction to this I want to call attention to the respect with which the courts in this and other countries look upon the testimony of the chemist and microscopist. The court seems to think that if the chemist says a thing is so, it is an incontrovertible fact; if he says that a certain element is found in the body, it is accepted. Yet those of us who know, know that there is very little more confidence to be put in that kind of testimony than in any other kind. For example, I have seen repeatedly cases in which the chemist has said there was arsenic present in the viscera and thereupon many men have been committed for crime. It is not generally known that by certain analyses arsenic can be found in the viscera of all persons.

The position of the medical man as he comes into court is a peculiar one. The law assumes that he is an expert. When it comes to the position of the alienist, the court requires that he shall qualify to having had some connection with an institution concerned with such work. The average medical man, however, is supposed by the law to be an expert. There is a great difference between the medical man who is giving testimony and the man giving expert testimony regarding something he knows practically all about. When the ordinary physician goes on the witness stand to give expert testimony for the first few times he feels that it is quite an honor and he usually testifies freely until the cross-examination is begun. He then wishes he had testified one fortieth as much. The cross-examiner seems to assume that everything is a misapplication of facts. Sometimes the courts look upon it as such. I used to suffer. They would look at me with frank disapproval. After a while you can educate the judge to believe in you. This can be done if you persist in telling the truth under all circumstances. It is a perfectly easy thing if you start it and keep it up all the way through. Another thing that is not sufficiently emphasized is that if a medical man is in court he often unconsciously shows a bias. He must remember that he is a witness and not a counsel for the plaintiff or the defense and that, while he may be paid by the counsel who asked him, he is there as an officer of the court and there to educate the court along a particular line. If he will put himself under the protection of the court it makes it easy sailing. All a man has to do is to testify to those things he knows to be true, and when he makes a statement of personal opinion he should always perface it with, "In my opinion" such and such a thing is so, because, as often happens in Pennsylvania, a matter may be tried three or four times, and you may on subsequent trials give a different answer to the same question. Any man has a right to change his opinion (I used to be a Republican), but a man has no right to change a statement of fact. It is almost impossible to answer yes or no to questions that are asked, and these are the things that get us into disrepute. The giving of expert testimony seems to be absolutely necessary and it would be a great deal better if we were allowed to do here as in other countries and have the expert witnesses selected by the court and not by the counsel. In regard to testifying in a case upon a contingent fee, the cross-examiner may ask a man this question and if he is so testifying his evidence will be thereby cheapened in the eyes of the court and jury.

Dr. J. W. Albright, Muncy: In listening to witnesses giving ordinary testimony I have noticed repeatedly that they swear too positively on points upon which they are not sure. I have in mind a nurse who swore she had not put her signature to any kind of a paper. The opposing counsel showed that she had signed as a witness to a will. It had escaped her memory entirely. I would say the same holds good in expert testimony. Do not make such positive assertions unless you can show plainly to the court that they are true. When the witness goes so very far in technic, it only leads a jury to think he is based on one side of the case. My point is to caution doctors as expert or ordinary witnesses not to swear too positively when the law asks them to testify only to the best of their knowledge and belief.

Dr. J. M. Baldy, Philadelphia: Is it immoral for the expert to advise the attorney? If I am called in court and find certain conditions present of which the counsel is not cognizant and is not therefore in the position in which he can give me the opportunity to state the facts as I know them, am I immoral if I confer with the lawyer in this respect?

In regard to the witness becoming an advocate, not as long as expert testimony is handled by the courts, as it now is, will it be otherwise. A case in point is that of a woman presumably injured who is changing life, a condition from which all her symptoms come. I am put in the position of being made to admit cold facts which convey an impression of which I am perfectly conscious, and which I equally know to be far from the truth. In qualifying the mere facts I have been compelled to give, I of necessity become an advocate of my opinion that the symptoms come from the change of life and that alone. In doing this I can not see how I do anything else than become an advocate of the defendant. The two things of necessity go together. One can not go into court and be anything else than an advocate under the present system; it goes without saying that the system is wrong.

Mr. Kane, closing: I wish Dr. Dercum, whose opinion I hold in high regard, would tell us what he thinks of changing the system, and whether he thinks the present system is bad or not. Before I ask him to do that, I wish to remove a false impression which part of my paper seems to have given. I did not mean to say that there was anything immoral in acting as an expert adviser. What I meant was that that most honorable function should not in practice be combined with that of an expert witness, because if it is so combined, the expert witness will become an expert advocate. I do believe that. I believe that the facts as we know them, and the experience we have had in the courts, each and all of us, will bear me out.

Dr. Dercum, closing: In my opinion the situation is not as bad as it is commonly believed to be. I think, also, that if experts were appointed officially by the court that great harm might occasionally ensue. Even if the selection of the experts be made by the court from lists furnished by opposing counsel, a common opinion by such a board of experts might represent a compromise in a borderland case; a compromise with the truth as each man sees it is as harmful as it is dishonest. It is not impossible that experts appointed by the court might be incompetent persons or at least less competent than some whom the counsel might otherwise have selected. I do not believe that under our constitution a defendant, for instance, can be prevented from putting on an additional witness, for any evidence bearing upon the question at issue is competent evidence and can not be legally excluded, and the picture might then be presented of experts nominated by the court being opposed by experts nominated by the defendant. Under such circumstances the official court expert, though he might be a less competent person, would have undue weight with the jury. As I have already said, the questions concerning which experts differ are quite commonly borderland questions regarding which differences of opinion are often legitimate.

Furthermore, it is not commonly known to the lay public that it is a very usual thing for physicians, after making expert examinations, to decline to testify. For instance, in a recent case three physicians were requested to act as experts for the defense in a trial for murder. Two of them came to the conclusion that the defendant was sane; the third, no less honest and no less capable than the other two, came to the conclusion that the defendant was insane. The first two physicians, I need hardly add, withdrew from the case.

COPY OF ACT PROPOSED BY COMMITTEE OF THE PENNSYLVANIA BAR ASSOCIATION IN 1899.

AN ACT.

Relative to Expert or Opinion Testimony, Declaring and Modifying some of the Existing Rules of Law and of Practice. Providing also for Choosing and Paying Official Experts in Certain Contingencies, and Enacting Penalties to Enforce the Provisions of this Statute.

Section 1. Be it enacted, etc., that in any proceeding, civil or criminal, in which expert or opinion testimony may be admissible, either party may apply by petition to the proper court, or to a law judge thereof, for the appointment of official experts in the manner hereinafter provided. If no application be made, either party may offer such testimony in the same manner and with the same effect as if this Act had not been passed, subject to the modifications of existing rules declared hereinafter by Section 8. No person may be chosen an official expert under this act unless he has given particular study and attention to the profession, science, art, trade, business or calling that is concerned with the subject under inquiry and has attained to special knowledge or skill therein. Nor may any person be so chosen if he has been approached or consulted or paid in reference to such proceeding or to the subject under inquiry by or on behalf of either party. Nor may he be so chosen if he has already formed a fixed opinion concerning the right or guilt of either party to such proceeding or concerning the existence of some material fact relevant to such right or guilt.

SECTION 2. The petition must be presented a reasonable time before the trial or hearing, and must contain sufficient averments to inform the court or judge concerning the nature of the issue and the competency and relevancy of the proposed testimony. If the court or judge be of opinion that the petition does not disclose a case that calls for the appointment of official experts, the petition may be refused without further action thereon, and the refusal shall not be subject to review. But if the court or judge be of opinion that a *prima facie* case for such appointment has been made out, a rule shall be granted upon the opposite party to appear and answer upon an early day to be fixed by the court or judge, and thereupon, with or without further proceedings, the application may be granted or refused in the discretion of the court or judge. Neither the grant nor the refusal shall be subject to review. If the application be refused, the costs thereof shall be paid by the petitioner; but if the application be granted, the costs thereof shall follow the final judgment or decree.

SECTION 3. If the application be refused, either party may offer expert or opinion testimony in the same manner and with the same effect as if this Act had not been passed, subject to the modifications of existing rules declared hereinafter by Section 8. If the application be granted, no expert or opinion testimony may be offered by either party, but such testimony shall be heard only from the official experts, that are chosen and called to testify in the manner hereinafter provided, unless the witness called to express an opinion has by reason of personal observation, examination, or test, actual knowledge of any fact enabling him so to do.

SECTION 4. The parties may agree upon the number of official experts, but not exceeding four, and if they thus agree, no more shall be chosen. If they also agree upon the person or persons, the court or judge may appoint him or them; but if they do not agree upon the persons, the parties may agree upon a list of names from which the court or judge may choose the number agreed upon. If the parties do not agree upon the number of official experts to be chosen, the court or judge shall fix the number, not less than two or more than four, and the parties may then agree upon a list of names from which the choice may be made. If they do not agree upon such a list, each party may hand in a list of his own, and from these lists the court or judge, in his or its discretion, may choose the number fixed, or one person may be chosen from each list, and these two may be empowered to choose one or two in addition. The court or judge may call upon counsel for such information concerning the character, impartiality and expert qualifications of any of the persons named as may aid in making a proper selection, and in his or its discretion may reject all or any of the names submitted and may call for new nominations, or may choose persons that have not been named by either party. At any time, either before or during the trial, the court may of its own motion select an official expert in addition to those already chosen. Each list of nominations shall be accompanied by the affidavit of the party and the certificate of his counsel, stating in effect that no person named has been approached or consulted or influenced in any manner by or on behalf of the party or his counsel, so far as either of them knows or has reason to believe. The names of the official experts chosen by the court or judge shall be certified to the prothonotary or clerk, who shall forthwith notify them of their appointment, accompanying the notification with a copy of so much of the petition and answer as relates to the subject of inquiry. This list shall not be filed of record, but shall remain in the custody of the court or judge until after final judgment, when they shall be destroyed. No person shall disclose to an official expert by which party his name was suggested, and any violation of this provision shall be a contempt of court and punishable accordingly.

SECTION 5. If any test, examination or inspection is desired by either party, or by any one of the official experts, an application therefor may be made to the court or judge, either by counsel or by one or more of the experts; and thereupon the court or judge, upon notice to all parties in interest, shall make such order as may appear just and proper, requiring, whenever practicable, that all the experts shall join in making such test, examination or inspection, and directing whether or not a written report shall be made of the results thereof. In a proper case, the court or judge may order a physical examination of a living person or a post-mortem examination of a corpse.

SECTION 6. No such report shall be made public or communicated to either party in advance of the trial, nor shall any official expert make known in any manner or degree or to any person his opinion concerning the subject of inquiry or any fact concerning any test, examination or inspection. Any person violating the provisions of this section or attempting to procure their violation, shall be guilty of a misdemeanor, and shall be punished by a fine not exceeding one hundred dollars, or by imprisonment not exceeding six months, or by both, at the discretion of the court.

SECTION 7. The official experts must either be present during the trial or hearing, or before being called to the stand they must read a copy of such testimony as is relevant to the subject under inquiry. They may suggest to the judge, auditor or referee additional questions to be asked of a witness, subject to the decision of judge, auditor or referee upon the competency and relevancy of the questions, and either party may except to such decision. The trial judge, auditor or referee shall determine at what stage of the trial or hearing the official experts shall give their testimony, but either party may at any time request the judge, auditor or referee to call them to the stand. They shall not aid either party at any time or in any manner to prepare or to try his case, nor shall they sit with him at the trial, nor shall they be called on his behalf, but they shall be called by direction of the court and shall be subject to cross-examination by the counsel of each party. Either party may also cross-examine any such witnesses concerning his qualifications, impartiality and disinterestedness before his testimony is taken, and if it appear to the satisfaction of the trial judge, auditor or referee that a substantial doubt exists concerning either point, the witness shall not be permitted to testify; and the ruling of the judge, auditor or referee upon this motion shall be subject to exception and review. After the examination of the official experts has been concluded, either party may move to strike out the testimony of any such witness upon the ground that his testimony has shown him to be incompetent, and the ruling of the trial judge, auditor and referee upon this motion shall be subject to exception and review.

SECTION 8. No hypothetical question, case or statement shall hereafter be submitted, either to an official expert, or to any other expert witness called in any proceeding; but in every inquiry, trial or hearing, the opinion of an expert witness must be based either (1) upon agreed or undisputed facts, or (2) upon facts known by the witness and previously testified to by him, or (3) upon the entire consistent evidence of a party or a witness, assuming the evidence to be true, or (4) upon the several aspects of such evidence, assuming first one aspect and then another aspect to be true, or (5) upon a combination of all or of any of the foregoing matters. In any proceeding, before an expert witness shall be permitted to express an opinion, he must state whether or not that which is submitted to him as a basis for his opinion is sufficient for the purpose, and if his answer be in the negative he shall give his reasons, and no opinion shall be asked of him upon that basis. In no instance shall he be required to answer merely yes or no to any question, if in his judgment such answer would mislead or would state only part of the truth; but he shall be at liberty, subject to control by the trial judge, auditor or referee, to make as full and precise answers as he believes to be necessary in order to state the whole truth.

SECTION 9. In any proceeding in which the subject of inquiry into the genuineness of a writing, either in whole or in part, if official experts are not appointed under this Act, the opinion of the following persons shall continue to be admissible: (1) Any person acquainted with the handwriting of the supposed writer, or (2) any person that has had special experience with documents, handwriting and alterations thereof, or has pursued special studies relating thereto; the persons in Class 2 being called "experts" in this section. Such experts (and the official experts also if such be chosen), while giving their testimony, may compare the disputed handwriting with any writing admitted to be genuine, or proved to be genuine to the satisfaction of the trial judge, auditor or referee, or may compare any other documents in evidence, and the testimony of the experts concerning this comparison may be submitted to the judge if trial by jury has been waived, or to the auditor, referee or jury upon the genuineness of the writing in dispute. Such experts (and the official expert also if such be chosen) may also place the genuine and disputed signatures or writings in juxtaposition, and may draw the attention of the auditor, referee or jury, or of the judge, if the trial is without a jury, to their similarity or difference. In the examination of any such expert or official expert, either party may require him to state the principles on which he has based his work, the details of his investigation, his opinion that the results are or are not important upon the subject of inquiry, and also the reasoning and analysis by which his opinion has been reached. But whether the signature or writing in question is genuine shall remain as heretofore a question to be finally decided by the judge if the trial by jury has been waived, or by the auditor, referee or jury on all the evidence.

SECTION 10. Official experts shall be entitled to reasonable compensation for their services, to be allowed by the proper court. In civil cases the compensation thus allowed shall be ultimately paid by the party or parties adjudged liable for the costs, but if the trial judge so order the county shall pay the allowance in the first instance, and thereupon shall be entitled to collect the same from the party or parties ultimately liable by such process as a party to the suit may use. In criminal cases, if the defendant is convicted, the court shall make an order to be enforced as part of the sentence, that he pay the expert's allowance, but if the trial judge so order, the county shall pay the allowance in the first instance and shall thereupon be entitled to collect from the defendant by such process as the Commonwealth may use to collect her costs.

SECTION 11. Any willfully false statement in any affidavit required by this statute, shall be perjury in the party making such statement, and shall be punishable by a fine of not less than one hundred dollars nor greater than five hundred dollars, and by simple imprisonment or imprisonment at labor, not exceeding one year. Any willful attempt to influence a person after he has been chosen by the court as an official expert, or any bribery of such expert, or any corrupt attempt to forestall the selection of any person as an official expert, by engaging or consulting him with a view to make him ineligible as an official expert, shall be a misdemeanor, and shall be punishable by a fine not less than one hundred dollars nor greater than five hundred dollars, or by imprisonment not exceeding two years, or by both, in the discretion of the court. In the case of bribery, the expert shall not be criminally punishable, but he shall be a competent witness for the Commonwealth, and may be compelled to testify as under cross-examination.

Section 12. The court of common pleas of each county may make rules to regulate the practice under this Act. The Act of May 15, 1895, (P.L. 69) entitled "An Act relating to the competency of experts and to the rules of evidence in questions of simulated (or altered) handwriting, declaring and defining some of the existing rules of law upon these subjects, and also extending some of the provisions of the same," and all other acts, general, special or local, inconsistent herewith, are hereby repealed. This Act shall take effect on the .... day of ...., 1901.

DISCUSSION FOLLOWING PAPER ON MEDICAL INSPECTION OF SCHOOL CHILDREN.

BY SAMUEL G. DIXON, M.D., LL.D.,
Harrisburg.

(The paper was read at the General Meeting of the Medical Society of the State of Pennsylvania, Scranton Session, September 25, 1912. See Journal, September, 1912.)

Dr. Walter S. Cornell, Philadelphia: The medical inspection of schools in the fourth class districts is quite different from that in the first class district, Philadelphia, of which I have official knowledge. It may be well to remind the members of the society that Pennsylvania has districts of the first, second and third class, the first class constituting Philadelphia and Pittsburgh, and the fourth class the general rural population of Pennsylvania after the first, second and third class cities have been taken out of it.

In Philadelphia, comprehensive medical inspection has been established and this is true in several of the other larger towns. The progress made by Dr. Dixon in securing inspection in one half of the rural districts is to my mind, very encouraging when one considers that the matter is optional with the school authorities. Taken together, Pennsylvania is ahead of any other state in regard to medical inspection, although New Jersey and Massachusetts possess state laws which in some repects are better. One must remember that the school code, passed in 1911, by which medical inspection was inaugurated throughout the state necessarily contained many compromises in order to secure its passage, and it is to the future legislatures that we must look for the perfection of the school code. It is interesting that medical inspection was begun in the United States in individual communities and that it was carried on in two or three hundred towns before Massachusetts and Vermont passed laws providing for the testing of the eyesight and hearing of all children of the state by the school teachers. New Jersey, two years ago, was the first state to pass a law requiring general medical inspection by physicians and finally Pennsylvania passed a state law which provides for a better grade of medical inspection, but unfortunately does not make it commandatory in certain communities. However, one knows that the administration of the law as it is will have a wonderful educational effect and it is only a question of time when those opposed to the uplifting of the health of the whole community will be converted.

We should remember that medical inspection has difficulty in going further than the measure of its endorsement by the medical profession. At the present time our civic associations, particularly women's associations of various sorts, are interested in the health of children as exemplified by medical inspection, child hygiene, better milk and better housing conditions, more than are the members of the medical profession. The reason for this, as I see it, lies in the fact that the average practicing physician has his living to make from clinical medicine and press of work prevents him from thinking much about public health matters. On the other hand, the secretaries of the various social agencies are paid to advocate just these social measures and women's associations are naturally composed of members who have more time to spare in community work than their fathers and husbands. However, these differences in situation do not excuse our medical organizations from standing out and definitely pushing the subject of medical inspection. I am glad to say that in Philadelphia the medical profession has loyally stood by the work of public health and charities and some of its best work has been done by coöperation with the various medical societies.

The particular difficulties that have arisen around medical inspection are due to the system of medical practice which has existed for many years and which has not yet adjusted itself to the necessary advent of public medicine. Although it is evident that the discovery of the means of combating infectious diseases inevitably and rightfully leads to comprehensive measures undertaken by the state to eradicate these diseases, we have not adjusted ourselves to the presence of public health service in the community. Very probably the officials in the public health service have something to learn also regarding adjusting themselves to the medical profession. Be that as it may, our medical colleges do not at the present time prepare the medical profession to think about public health work, either as a career to be taken up or as a regulating factor governing their private work in the community. Very few, if any, medical colleges have trained their students to study the relation of the so-called specialties to internal medicine.

In Philadelphia the medical inspectors were chosen by a competitive examination in which almost two hundred men took part, and absolute merit dictated the appointments, yet the director of medical inspection knows from actual experience with these inspectors that but few of them were aware that interior squint is probably due to hyperopia, that the most important tooth in the mouth is the six-year molar and that a child's vision should be tested one eye at a time, and accompanying questions asked as to headache and eye fatigue. At the present time, in order to get these simple facts, men have to buy large books bearing on the different specialties and read them through. To a certain extent the whole thing is a vicious circle since the average medical inspector is not paid enough to warrant demonstrating much knowledge of anything. Evidently we will have to go through a process of evolution as did the teaching profession, demanding specific training in the work of school medical inspection and at the same time paying respectable salaries as compensation for special knowledge.

Dr. E. W. Tool, Freeburg: I have been appointed for a fourth-class district in Snyder County, which contains about five or six pupils in each school house at the present time, but by November there will be twenty-five to thirty in each. I should like to ask Dr. Dixon whether we should have better inspection by starting now, or by waiting until November. I live in a district where there are eleven schools, supposed to be one of the highest grade in the county, in which the directors refused to ask for medical inspection, because they thought it was not necessary. They were afraid of the expense, if they asked for examinations; yet such districts of this county should be cared for, as well as the city districts. It is important for the good of the children. Many are mentally and physically defective and parents and teachers not capable of finding the defect, and all districts should have medical inspection.

Dr. C. E. Thomson, Scranton: I have had the privilege of talking to some rural physicians, who have been asked by the directors to make the examinations and have declined to examine the children at seven cents apiece, the amount they were told the State Board of Health would be able to pay. I should like to ask Dr. Dixon whether that is not the real reason why, in many cases, the six thousand children have not been examined.

Dr. Cornell has brought out a very important point. He tells us that our general practitioners are not competent to make the examinations, that they must ask for special training, and advises that our medical colleges give our younger men this special training. I should like to ask whether, after a man has acquired this training to fit him for this work, there is a possibility of the price being raised to about ten cents apiece for the examinations.

Dr. Dixon, closing: With regard to the time of commencing the medical school examinations, I would say that, taking into consideration our experience last year regarding the geographical conditions, including the weather, throughout the state, it is essential to begin early, because of the impassibility of the roads, and because of the small pay that the physicians get when the schools are far apart. Last year, it became impossible for us to pay the inspectors enough to travel long distances in order to examine the children.

In regard to the six thousand and odd children that were not examined, the directors passed their resolution not to have the examination under the organic law of the state before the organization for examination was formed, and before any physician knew what the pay would be.

As to the pay, physicians of course, are looking for as much as they can get while I am intrusted to guard the exchequer of the state, so far as the Department of Health is concerned. When I was chairman of the Committee on Hygiene in the Educational Board of Philadelphia, we started our attempt to obtain medical inspection, and then we found physicians willing to do the work for nothing for a time, in order to demonstrate to the people of Philadelphia that it was essential. They worked on this basis, I think, for two years. After we had demonstrated the benefit derived from medical inspections, councils made an appropriation for the work.

Last year, we took a little money, which we had for general expenses, to test out an organization for inspections. This term no special appropriation was made. In the early part of the year, it was hard for us to tell what demands were going to be made on the general appropriation, owing to the fact that epidemics are likely to strike our people as smallpox has just broken out at Carbondale and Allegheny. You can not tell how often your patients will be sick, and I can not make any better calculation of the health of a community. Therefore, it is hard to calculate what your expenditures will be during a two-year period. The money for medical inspection was taken out of the general appropriation made to the Health Department as no special appropriation had been made. This might have brought us up against a deficiency, and I, therefore, had to be very conservative. There was nothing obligatory but optional with the physicians whether they accepted the positions of medical inspectors or not. This year our general appropriation has to carry us along until June 1, and we have taken as much out of the general fund as we believed would be safe. At the next session of the Legislature, we hope you will urge an appropriation for this special purpose. You must appreciate the fact that this lack of money was up to yourselves or the people of the state. You must help influence the senators and representatives to make an appropriation, as they depend upon their constituents to help them decide what is best. We did the best we could in taking money for this work out of our general appropriation and we found many men willing and anxious to do excellent work for what we nad to offer. I think that with your exertions, and others of the medical profession throughout the state, a proper appropriation can be had at the next session, as I have found the legislators anxious to help all good causes. So, you see, no criticism can be made of the department. I do not think that any criticism is just; for we could have lain down and done nothing, as we had no money appropriated specially for school inspectors.

"The unemployable, the irresponsible, the hopeless, the feeble in mind and body are 'the matured products of injured infancy.' "—*American Motherhood.*

CERVICAL ADENITIS, WITH SPECIAL REFERENCE TO THE X-RAY METHOD OF TREATMENT.

BY GEORGE MORRIS DORRANCE, M.D.,
Surgeon to the St. Agnes Hospital, Philadelphia.

ANATOMY AND PHYSIOLOGY OF THE CERVICAL LYMPH GLANDS.

Position of the Various Chains of Cervical Glands. The principal group of glands in the cervical region is that which is situated along the course of the internal jugular vein. It consists of a large number of nodes and is a continuous chain extending throughout the entire length of the neck, but for convenience it is divided into superior and inferior deep cervical groups. In addition to these, some smaller chains occur, more superficially, forming the superficial cervical group, so that there are three main groups in this region.

The superficial group may be divided into two subgroups. The external jugular nodes, situated along the course of the external jugular vein and resting upon the outer surface of the sternocleidomastoid muscle, are few in number, ranging usually from four to six. They receive tributaries from the pinna and parotid region and empty into the superior deep cervical group by passing over the anterior border of the sternomastoid muscle. The second subgroup is the anterior cervical chain, which is situated beneath the depressor muscles of the hyoid bone, resting upon the anterior surface of the larynx and the anterior and lateral surfaces of the trachea. These drain the larynx and the trachea and empty into the superior deep cervical chain. The tributaries of the superior deep chain are the posterior auricular, occipital, retropharyngeal, parotid, submaxillary, submental, and the superficial and anterior cervical chains. The regions drained are the occipital portions of the scalp, upper part of the back of the neck, tongue, palate, nasal and buccal mucous membranes, tonsils, teeth, pharynx, larynx, and upper portions of the esophagus. The superior cervical chain empties into the inferior deep chain and assists in forming the jugular group. The inferior deep cervical chain (supraclavicular) is situated in the supraclavicular triangle of the neck and rests upon the scalene muscles. The tributaries, in addition to the superior deep chain, are those from the integumentary and muscular tissues of the lower part of the neck and from the skin covering the pectoral region, the axillary groups, and, on the right side, the group of glands along the suspensory ligament of the liver. The inferior deep cervical chain joins the superior deep group to form the jugular trunk, which in turn empties, on the left side, into the thoracic duct and, on the right side, into the right lymphatic duct.

Channels by Which Special Regions Are Drained The nose and accessory sinuses, the lymphatic network of the nose and its accessory sinuses pass in two directions. Approximately, the anterior half drains into the submaxillary group, and the posterior half either directly into the superior deep chain or indirectly through the retropharyngeal lymphatics into the superior deep chain.

The lymph channels from the submucous tissues of the lips drain principally into the submaxillary nodes. The subcutaneous lymph channels of the upper lip drain into the submaxillary nodes, while the subcutaneous channels of the lower lip empty into the submental nodes. The lymphatic channels from the lower gums empty into a lymph duct which passes outward over the outer surface of the mandible at the last molar tooth and empties into the submaxillary nodes. The lymphatics of the hard palate are continuous laterally with those of the upper gums. The channel at the level of the last molar tooth passes outward in front of the anterior pillar of the fauces to the upper nodes of the superior deep cervical group. The tonsils, like the palatal group, drain into the upper nodes of the deep cervical chain.

The importance of the lymph and its movements in the various organs is to be seen in different ways and at different points. (*a*) In some tissues the lymphatics represent the channels through which the nutrient fluid given off by adjacent blood vessels is distributed. This is particularly the case in the cornea and also in connective tissues. (*b*) In some tissues, as in the salivary gland and in the testicles, for example, the lymph spaces constitute the chief reservoirs from which, at the time of secretion, the cellular elements derive the fluid necessary for their proper function. In addition the lymphatic vessels, everywhere, have the task of collecting the fluid in which the tissues are bathed and of conveying it back again to the blood. If the network of capillary blood vessels be regarded, from this standpoint, as an irrigation system which supplies the tissues with nutrient fluid, the lymphatic system can be considered as a drainage mechanism which in turn conducts away the excess of the transuded fluids. Metabolic products from the tissues and the products of retrogressive metamorphosis are added to this return current. The lymph channels are at the same time absorbent vessels. Substances that would otherwise be carried to the parenchyma of organs are arrested, as in a filter, by the lymphatic system.

A consideration of these facts shows that the system of lymph channels represents in reality an appendage to the blood vascular system; hence the lymphatic system can not perform its function if the circulation of the blood is totally interrupted. It operates only as a part of the whole and with the whole.

The so-called lymph glands are peculiar to the lymphatic apparatus. They are inappropriately designated glands for they really represent only many-branched, lacunar, labyrinthine spaces made up of adenoid tissue interposed in the course of lymphatics.

Every lymph gland is surrounded by a connective tissue capsule containing elastic fibers and frequently unstriped muscle. From the inner surface of the capsule numerous septa and bands (trabeculæ) penetrate into the interior of the body of the gland and divide it into a large number of small compartments. The latter possess, within the cortical substance of the gland, a spheroidal shape (alveoli), while in the central or medullary portion the so-called medullary spaces are sausage-shaped. All, however, are of the same significance and all are connected by communicating orifices. Thus, a rich network of cavities connected in all directions is formed within the lymph gland by the septa. These spaces are traversed by the so-called follicular bands, which convey the blood vessels of the gland.

The afferent vessels, which spread out upon the surface of the gland, penetrate the external capsule and pass over into the lymph paths of the glandular cavities. The efferent vessels, which exhibit large, almost cavernous anastomoses and dilatations, emerge at some portion of the gland, usually at the hilum, and reunite to form the continuation of the lymph vessel within the gland. The lymph paths, or lymph sinuses, present a dense interlacing network lying within the glandular cavities and interposed between the afferent and efferent vessels.

The movement of the lymph on its way through the many-branched and tortuous lymph sinuses will be retarded and, on account of the resistance offered by the cellular elements arranged within the lymph sinuses, will possess but a feeble propulsive power. The lymph corpuscles lying in the meshes of the reticulum are carried onward by the lymph stream, so that lymph coming from a gland is richer in cells than that conveyed by the afferent vessels. The lymph cells lying in the range of the follicular bands may again migrate through the narrow meshes of the reticulum into the lymph sinuses, and thus make good the loss. Either the formation of the lymph cells in the follicular bands takes place locally by division or new cells migrate from the capillary blood vessels into the follicular bands. Further, the muscular activity of the capsule and trabeculæ should not be underestimated in the movement of the lymph through the glands. Such muscular contraction will compress the gland like a sponge. The direction of the fluid thus discharged is governed by the presence of valves within the related lymphatics.

The lymph glands are also a filtering apparatus, in which degenerating leukocytes, bacteria, etc., are intercepted and subjected to a destructive metamorphosis.

PATHOLOGICAL ANATOMY.

Channels of Infection. Enlargement of the cervical glands is most common in children between the ages of eight and fourteen, but may occur at any age. It may be a part of a general adenitis due to a constitutional affection, such as syphilis, Hodgkin's disease, leukemia, typhoid fever or the exanthemata. When the glandular enlargement is confined to the cervical chain, it may be unilateral or bilateral. The character of the infection responsible for the glandular enlargement, whether tuberculous, syphilitic, septic or malignant, must be ascertained as the first step in the diagnosis.

Malignant disease can as a rule be easily recognized by the existence of a primary focus. Whether the glands are tuberculous or septic is at times impossible to determine without removal and pathological and bacteriological study. Many authorities assert that all chronic enlargements of the cervical glands are tuberculous and the following reports apparently confirm it. Dr. P. A. Lewis reported a careful study of fifteen consecutive cases, in nine of the patients he found tubercle bacilli of the bovine type and, in the remaining six, tubercle bacilli of the human type. W. Letterer[1] reported a study of eleven consecutive cases. In five cases the human type was isolated; in six, the bovine. A. H. Tubby mentions a fact which is very interesting in this condition, *i. e.*, that the human type flourishes better in well-oxygenated tissue, such as the lungs, while the bovine requires less oxygen. Possible infection by milk would better explain the problem, as far as the cervical glands are concerned.

Again, as Calmette's researches show, cervical adenitis may be due to intestinal infection, and not to direct infection from the faucial lymphoid tissue, teeth, etc. The disease of the cervical glands may also arise by retrograde propagation from the bronchial glands, but that this is rare is shown by the fact that the cervical chain is seldom found to be infected in cases of pulmonary tuberculosis in children. The tuberculin test is of little value in determining whether a gland is tuberculous or not. A negative tuberculin result is of value in that it usually excludes the presence of tuberculosis in the entire body. A positive reaction, on the other hand, may be due merely to the presence of an arrested tuberculous process elsewhere in the body and have no bearing at all on the actual lesion under observation, or the infection may be of the bovine type and thus fail to react to the human strain. If a mixed tuberculin is used the last difficulty will be overcome. Another interesting factor in this connection is heredity. Until recently, the question of immunity has been neither adequately discussed nor sufficiently understood but, as Kelynack states, "recently, clinical and pathological researches have shown that the character of the soil is of almost equal importance to that of the seed" and he mentions the striking examples of family tuberculosis related by Sir William Whitla (these, I think, are cases of house, or direct, infections). On the other hand, investigations, such as those of Stick, Schnitzlein and Cornet demonstrating the rarity of tuberculosis in orphan asylums, show that the hereditary factor can not be very large.

Channels of Infection. The most frequent starting point of the infection in children and young adults in my experience is the tonsil. The tonsillar involvement in such cases is usually associated with the presence of adenoids.

Those who have examined tonsils and adenoids after removal have found in small percentages, three to ten per cent., tubercle bacilli deposited therein. Sewall[2] reports the results of a histological examination of 772 pairs, or 1544 tonsils, of which 6.2 per cent. were tuberculous. He was able to follow 160 patients who had been operated upon for diseased tonsils and found that 92 had no enlarged glands and that 68 had enlarged glands. Fifty-seven of these glandular enlargements permanently disappeared following the removal of the tonsils. If tubercle bacilli are found in the tonsils and in the cervical glands, it is natural to infer that the latter formed the avenue of invasion.

The teeth as a mode of invasion are frequently overlooked, although, as an avenue of infection, they are second in importance to the tonsils only. As these glandular enlargements occur most frequently at the time of the shedding of the first teeth and the eruption of the second set, one frequently finds very imperfect teeth. Stark[3] was the first to demonstrate clearly that the bacilli in the case of tuberculous glands may gain entrance through carious teeth. He cites the case of a youth who had always been healthy previous to the age of eighteen years, when he developed enlarged glands. Carious molars were present on both sides.

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[1] *Southern Med. Jour.*, Jan., 1911.

[2] *Jour. A. M. A.*, Sept. 9, 1911.

[3] *Revue de la Tuberculose*, July, 1896.

The glands were removed and the teeth were extracted. The glands proved to be tuberculous and cover-slip preparations from the teeth revealed tubercle bacilli. Interesting in this connection are the published statistics of Odenthal of Bonn. Among 987 children examined he found glandular enlargement in 697 (70.7 per cent.), and also carious teeth were present in more than one half. Only 7.7 per cent. of the children showed carious teeth without glandular swellings. He found that when dental caries existed on both sides, glandular enlargements were also present on both sides. Of the 267 children (28.6 per cent.) who had no glandular enlargements, only five had carious teeth. Hoppe of Leipsig in an examination of 269 cases found glandular swellings in 73.9 per cent. In nearly all the cases it was associated with dental caries. The percentage of children with carious teeth and without glandular swellings was 21.5 per cent.; 4.4 per cent. had neither carious teeth nor glandular swellings.

These reports emphasize the importance of careful attention to the condition of the teeth in cases of cervical adenitis for if tubercle bacilli are able to effect an entrance through carious teeth, other infections may invade the body through the same channels.

Inflammation of the conjunctiva and lacrymal sacs is the cause of glandular involvements in a small percentage of cases. Head lice, sinus disease, osteomyelitis of the upper and lower maxillary bone and chronic middle-ear disease also account for a small percentage. H. Osborne[4] gives the causes of cervical adenitis in the following order: tonsils, adenoids, carious teeth. To that in the poor, I would add, pediculosis capitis.

So far in this discussion, I have taken it for granted that practically all cases of the chronic cervical adenitis are tuberculous. This I do not think is so, but from a clinical study and a limited number of pathological examinations, because of late I have not found it necessary to remove any glands, I would estimate about eighty-five per cent. as tuberculous. The factors that favor the development of tuberculosis, and I think this equally applies to the glandular tuberculosis, are enteric fever and influenza, lack of nourishing food and fresh air, insanitary surroundings, and, above all, exposure to the tubercle bacillus.

Treatment. As in any other affection it is essential to have a complete history and a thorough physical examination of the entire body, with blood and urine reports if indicated. By this examination the starting point of the infection, whether it be the tonsils, adenoids, teeth, etc., will have been determined; also whether tuberculosis or some constitutional disease exists elsewhere in the body. Whatever method is ultimately used to combat the glandular infection, it is absolutely essential that the point of entrance of the infection shall first be removed; otherwise, recurrence after recurrence will be the result. The treatment of cervical adenitis due to malignant disease or constitutional affections will not be discussed in this paper. The literature upon the chronic cervical adenitis is full of descriptions of complicated operations and incisions, numerous applications and plasters, collar supports, plaster fixations, tuberculin and vaccine medication, electrical and x-ray treatment, but there is very little upon the number of patients permanently cured or the number of recurrences.

METHOD OF ATTACKING THE GLANDULAR ENLARGEMENT.

That surgery falls short of what one desires is shown by the number of persons who after several operations, each one registered by an unsightly scar, still present enlarged cervical glands. On examining patients that have had one or more operations, one frequently finds one or more muscles paralyzed and cutaneous areas with impaired sensation. On account of the large number of recurrences and the general want of success attending operations, radical surgical operation has fallen into disuse. We may next consider external applications and rest. These accomplish little more than nature will do alone. At best the applications act as poultices and bring on abscess formation, a result which is not desired at the present time.

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[4] *British Med. Jour.*, Jan. 14, 1911.

With regard to the administration of tuberculin, one finds in the literature the most diverse opinions expressed; some claiming many cures, others no marked results. Personal communications have not enlightened me on this point. Some thought their patients did much better, while, on the other hand, many could not see any difference between those patients who had and those who had not been given tuberculin. Some use a mixture of bovine and human bacilli so as to cover both types of infection. I have never had any marked results from the use of tuberculin, but I have seen two cases of acute tuberculosis develop from quiescent lesions. I have discontinued the method because other measures have given me much better results. Bacterial vaccines have also been used when mixed infections were present with reported good results.

ROENTGEN RAY TREATMENT.

The Röntgen ray has given such uniformly good results that it is apparently the method of choice. Dr. George E. Pfahler under "Results to be Looked for" in Hare's Modern Treatment gives the following description of the results that may be expected: "Usually, there is no change to be seen for two or three weeks after the beginning of treatment. Then, there is a gradual reduction in size. Each gland becomes more movable and gradually disappears. Occasionally, in early cases that have only lasted a few weeks, there is a distinct reduction within the first few days after the first treatment. Such patients recover more rapidly. If, at the beginning of treatment, a gland is already red and tender, the signs of suppuration will be hastened by exposure to the ray. If suppuration occurs it should be treated just like an abscess, and a scar one quarter of an inch long will be the result instead of one four inches long."

In this affection I believe that divided rather than massive doses are indicated. The results are due probably to an increased phagocytic action. It has been shown by Crane that under *x*-ray treatment the opsonic index is raised, therefore, I usually treat these patients two or three times a week. A leather filter is interposed between the tube and the glands for the protection of the skin. The appearance of any redness of the skin will be an indication for cessation of treatment for a week or two. It usually requires from twelve to twenty treatments to obtain a cure. This will vary of course with the extent of the lesions, their duration, and the natural resistance of the patient. The anode should be about ten to twelve inches from the skin and about fifteen milliampere-minutes given at each treatment to the affected areas with rays corresponding to the No. 6 Benoist.

Borjon[5] advises puncture of abscess if present. He gives one *x*-ray treatment a week and obtains good results in about six weeks.

Curious as it may seem no one ever mentions a recurrence, a thing we all know exists.

CONCLUSIONS.

The treatment which I have used with satisfactory results is as follows: Open air treatment and forced feeding, which all patients of this type should receive; removal of the primary source of infection plus one or more courses of *x*-ray treatment. The *x*-ray treatment consists of approximately two exposures a week of about fifteen milliampere-minutes each, with the anode twelve inches from the skin. The rays are filtered through either a sole-leather or an aluminum filter. The patient is protected by sheet-lead except the area which one desires to treat. On the first symptoms of blushing of the skin, treatment should be suspended for at least two weeks. The number of treatments necessary to obtain a cure depends upon the amount of glandular involvement.

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[5] *Annales de Médecine et Chirurgie Infantiles*, Sept. 1, 1910.

By this method the number of recurrences have been surprisingly few and those which have occurred have been cured by a second course of x-ray treatments. All cases of this type should be kept under observation for a period of from four to six months.

THE MIKADO AND HIS DOCTOR.

It is a curious story that comes from Japan, by way of Paris, to the effect that the physician who attended the late Emperor during his last illness is being ostracized by his fellow countrymen because he has not imitated the example of General Nogi and joined his imperial master in the realms of the departed. There is this difference between the two cases: Nogi killed himself as a sign of personal devotion to his sovereign; the doctor is being urged to do likewise because he failed to preserve the life of the Emperor. But the doctor appears to have accepted modern civilization, in our understanding of the term, while the adherents of the old régime still cling to the ancient customs of their race, while living in an era which is supposed to have replaced the old. Moreover, if the cable quotes him correctly, the Emperor's medical attendant is bold enough to say that the etiquette of the court and the willfulness of his imperial patient so limited his scope of action that he is not to be blamed for the fatal termination of the case.

It is impossible for any one in the West to enter into and comprehend fully the Oriental point of view, or to understand the fine distinctions which are drawn by the Japanese between the social obligations and rules of conduct which are still binding upon them and those which have been discarded. The law of Japan has ostensibly superseded the ancient system of feudal chivalry, and has expressly forbidden the practice of self-destruction, yet the almost universal acclaim of the heroism and devotion of Nogi and his wife which followed their suicide revealed how deep-rooted are the principles of old Japan, and how thin in places is the veneer placed by the era of Meiji upon the customs and guiding theories of life which characterized the nation before the dawn of modern Japan. Western sympathy will be altogether with the unfortunate doctor, who, skilled in his profession and blameless under the scrutiny of his own conscience, refuses to heed the ingrained prejudices of the nation, and elects to live down the disapproval of his neighbors.—*Ledger*, Oct. 14.

THE INSURANCE COMPANY'S VIEW.

A few years ago a certain life insurance company wanted a medical examiner in a certain locality. My advice and judgment was solicited. I recommended a physician whom I thought possessed every qualification, but, to my chagrin, he was rejected. The company said that while it was not imperative that their examiners should belong to a medical society—all else being equal—they would give a preference in favor of a member over one who was not. The doctor whom I recommended did not belong to a medical society—he does now.—William Scott, M.D., in *Lancet-Clinic*, Sept. 14, 1912.

REQUIRED BY ACT OF CONGRESS.

In accordance with the Act of August 24, 1912, demanding that a full list of all publishers, editors and owners, of all publications be published, it is hereby stated that Dr. C. L. Stevens, 114 South Main Street, Athens, Pa., is editor, publisher and owner of the PENNSYLVANIA MEDICAL JOURNAL, which is issued monthly as the official organ of the Medical Society of the State of Pennsylvania.

DAYSPRING.

[A country doctor's reverie, in his "auto" returning from maternal service on Mrs. McGinty (?), offspring—a boy!]

There's something makes one bless
Yonder growing mistiness;
When moon and stars grow dim,
One sees both tree and limb.

All showing that dawn is near,
Eastward, what soft hues appear;
Of yellow, roseate-green,
Hills rise from the vale's grey screen.

See the flat white sheets of fog;
Hover o'er that dark brown bog;
How gracefully they steal away,
Roll back the sheets—It is Day!

HUGH HAMILTON, M.D.

Harrisburg, October 11, 1912.

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THE INFLUENCE OF IODIDS ON THE CIRCULATION.

Salts of iodin have been largely employed in the treatment of arteriosclerosis and allied disorders on the assumption that they lower arterial tension, diminish the viscosity of the blood and exert a resorptive influence on adventitious connective tissue. The evidence supporting this usage and the reasons underlying must, for the present at least, be considered inconclusive and contradictory. Dr. John A. Capps[1] has made a critical analysis of the facts bearing on this subject, as recorded in the literature, and as a result he concludes that iodids in therapeutic doses are not active vasodilators and that when given for long periods of time they do not materially affect the blood-pressure. Further, they do not alter the viscosity of the blood in any marked degree. Their beneficial influence in the presence of syphilitic arteriosclerosis is to be attributed to the absorption of the cellular exudate in the walls of the arteries. It is possible that this is brought about by the formation of a proteolytic ferment through the union of iodid with antibody, and which has a selective action on the syphilitic cellular exudate. Such selective digestive action may be operative in a lesser degree also on the cellular exudate of arteriosclerosis due to causes other than syphilis. E.

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[1] *Jour. A. M. A.*, Oct. 12, 1912, p. 1350.

A GERMAN COUNCIL ON PHARMACY AND CHEMISTRY.

The German Congress for Internal Medicine has appointed a commission whose first work is to be the reform of the advertisements for proprietary medicines which appear in German medical journals. Regarding the first report of the commission (Die Arzneimittelkommission des Kongresses für innere Medizin), the *Journal of the American Medical Association* (July 27, 1912, p. 291) says in part:—

> The "commission" has prepared a set of rules or principles according to which remedies improperly advertised shall be excluded from a list of acceptable proprietaries which is to be published. The following are the rules adopted:—
>
> No article will be accepted for inclusion in the list of the congress (1) the composition of which is secret. In this sense, "composition" means for simple chemical substances, the scientific name, the empiric formula and, so far as known, the structural formula; for mixtures the amount of each different constituent in a definite amount of the commercial product; (2) for which misleading claims are made in the advertisements regarding its origin, preparation, composition and tests for identification; (3) which shows essential differences in composition in different commercial samples, (by an essential difference is meant marked variation in appearance, taste, absorbability, or the quality or quantity of action); (4) which is a mixture of well-known substances bearing a new name, although it shows no essential difference from some already well-known mixture; (5) for the curative value or innocuousness of which, unwarranted and misleading claims are made in the advertisements; (6) the exploitation of which is contrary to the true interests of the patients.
>
> A comparison of these rules with the ten rules of the A. M. A. Council on Pharmacy and Chemistry shows a close agreement. While the German Council makes no direct prohibition regarding the exploitation of proprietary medicines to the public, nor makes any provision regarding the proper nomenclature of remedies, yet this is covered by their rule six, for it is to protect the public that our Council objects to the exploitation of proprietary remedies by means of direct advertisements to the public or by means of circulars or labels inclosed with the trade package, or by names which in themselves appeal to the public.

It is interesting to note that the "German Commission" at the outset has protested through its rule four against the exploitation of mixtures of well-known substances under meaningless names, *i. e.*, against such preparations as are known in this country as "pharmaceutical specialties."

It will be remembered that rule ten of the American Council was designed to remedy the endless confusion created by this indeterminable multiplication of proprietary mixtures. It should also be remembered that under the enforcement of this rule with us a very large part of the output of American pharmaceutical firms is barred from inclusion with New and Nonofficial Remedies, and thereby the antagonism of the affected firms has been aroused. As pharmaceutical mixtures are nearly as abundant in Germany as they are in America the adoption of the rule shows that the German Commission is in earnest and not afraid to antagonize commercial interests. S.

TYREE'S ANTISEPTIC POWDER ADVERTISED TO THE PUBLIC.

One of the first reports of the Council on Pharmacy and Chemistry notified the medical profession that the composition of Tyree's Antiseptic Powder had been falsely declared. While the advertisements which appeared in medical journals indicated that it consisted essentially of borax and alum, the report showed that it was a mixture consisting essentially of zinc sulphate and boric acid. In "reply" to the council's report, circulars were sent out from which it was to be inferred that the change in the formula had been made in the interest of the medical profession and in other ways the impression was given that the powder was ultra-ethical. In view of this attitude of the promoter of this proprietary, it is of interest to learn that the powder is now being advertised in the newspapers and in a way that is not in accord with past pretensions. According to the *Journal of the American Medical Association* (Aug. 24, 1912, p. 666) it is advertised as "Ideal for douche," "Unequalled as a douche," "Best preventative known," "Unequalled as a preventative," "Has no equal as a preventative." In commenting on the fact that this proprietary, like so many others, is introduced to the public through the prescriptions of physicians, the *Journal A. M. A.* says, "That a nostrum of this sort should go to the public is not surprising, but that it should have reached the public through the instrumentality of the medical profession is a serious reflection on the judgment of physicians." S.

BUREAU OF MEDICAL EDUCATION AND LICENSURE.

Important information will be found in another column under the above heading. The Bureau is accomplishing good work and demonstrating the fact that a single licensing body is much more efficient than multiple boards of examiners. At least a mental note should be made of the matter regarding reciprocity and proposed conditions governing licensure beginning with 1914.

In this connection readers are advised to preserve their journals for general information regarding medical matters in Pennsylvania. The frequent calls for back numbers of the Journal in order to complete the volume for binding prove that many are in the habit of preserving them in permanent form. At this writing back numbers for any month from 1897 to date can be supplied. After a little it will be necessary for want of room to preserve only a very limited supply of back numbers, and it may then be too late to secure complete sets. Back numbers of the annual volumes of transactions can be supplied from 1874 to date. One set back to 1854 could be furnished with the exception of the following missing years: 1856-60, 1862-64, 1871, 1872, 1880. Each county society should possess as nearly complete a set of volumes of the transactions as it is possible to secure. Members having copies for any of the missing years mentioned above will confer a favor by sending the same to the office of the secretary. S.

SYMPOSIUM ON THE HEART.

Osler has said that "to study the phenomena of disease without books, is to sail an uncharted sea, while to study books without patients is not to go to sea at all." If our readers will carefully study the scientific articles in this issue in connection with their patients, comparing what they find printed with what they can learn from continued examinations of the patients, it should result to the benefit of both doctor and patient. The articles should be read now and reread in connection with the examination and treatment of future patients. Only by so doing can we keep abreast of the practice of scientific medicine and do justice to our patients.

S.

FEE SPLITTING IN PENNSYLVANIA.

Attention is called to the correspondence on division of fees in another column. The physician whose name is omitted in the correspondence is a member of one of our component county societies. This is only the third concrete instance in Pennsylvania that has come to the writer's knowledge during the fifteen years' service as secretary of the state society, and notice is hereby served that in the next case names will be given, as recommended by Dr. Reed of Cincinnati. See editorial on this subject in the Journal for April, 1912. Dr. Reed not only recommends publicity but urges county societies to offer reward "for any evidence that will thereafter convict any member of the offense." S.

DO THE BY-LAWS NEED CHANGING?

Attention is directed to the report of the Conference of State Secretaries given under General News Items. It will be noted that this Conference, after careful consideration, made two definite and important recommendations: First, that the fiscal year should "coincide with the calendar year in all parts of the organization," and second that "state associations adopt provisions making dues in component societies payable on January 1 of each year, and requiring county secretaries to report to state secretaries all members in good standing, together with their *per capita* assessment for the current year, not later than March 31."

In all but two of our county societies the fiscal year now corresponds with the calendar year. While it may not be convenient for these societies to hold meetings in January there is no good reason why their fiscal year may not begin with January. This is not a matter of mere sentiment or even of convenience, as there are important reasons why all component county societies should have the same fiscal year, and the calendar year is the most natural period to select. There are also good reasons why the officers of a county society should be elected at a meeting previous to the beginning of the year so that they may be ready to enter fully upon their duties in January even though the society hold no meeting that month.

To carry out the second recommendation it will be necessary for the state society and nearly all the county societies to change their organic law. The matter, however, is of such importance that it is urgently recommended that each society begin at once the steps required to make the necessary changes to its constitution or by-laws. The secretaries, when once they understand the matter thoroughly, will surely be in favor of the change.

It will not be possible to change the ordinances and by-laws of the state society so that the plan proposed in the second recommendation can be put in force before January, 1915, but the spirit of the plan could begin with 1913. The officers of county societies should urge their members promptly to pay the annual dues January in advance. The time is no longer from January to January than it is from July to July and members should become accustomed to the payment in January or the previous December. The *per capita* assessment levied at Scranton and billed by Treasurer Wagoner in October becomes due and payable in December. Many of the societies have already paid this assessment as shown on another page, and any society not prepared to pay the assessment when due will have the best of excuses for urging the early payment of annual dues of its members for 1913. The insistence of prompt payment of obligations due the society will tend to inculcate the principle of prompt collection of bills due a member. S.

Changes in Membership of County Societies.

The following reports have been received since the October JOURNAL was printed:—

ADAMS COUNTY: *New Member*—Albert Woomer, Cashtown.

ALLEGHENY COUNTY: *New Members*—Viola Z. Allison, Tarentum; Raymond J. Frodey, George Liebold, Harry C. Updegraff, Grover C. Well, Pittsburgh; C. Clark Leydic, Natrona; James Walter Lowrie, Braddock. *Removal*—John S. Willock from Pittsburgh to Beechdale Rd., Roland Park, Md.

ARMSTRONG COUNTY: *Transfer*—Clarence D. Bradley to Philadelphia County Society.

BEAVER COUNTY: *New Members*—Walter C. Arthur, Ambridge (by transfer from Huntingdon Co.); Harry B. Jones, Woodlawn.

BERKS COUNTY: *New Members*—Isaac B. High, Reading; Fred L. R. Mattern, Fleetwood;

Herbert L. Quickel, Morgantown; Harry B. Schaeffer, Shillington.

BLAIR COUNTY: *New Member*—George E. Alleman, Altoona.

CAMBRIA COUNTY: *New Members*—A. Wallace Leech, Beaverdale; John C. McMillen, Barnesboro; Gomer E. Metherell, Conemaugh.

DELAWARE COUNTY: *Death*—Frank L. Hamilton (University of Pennsylvania, '93) in Chester, November 4, from apoplexy, aged 50.

ERIE COUNTY: *Removal*—Ross W. Thompson from Blandburg (Cambria Co.) to Wesleyville (Erie Co.).

HUNTINGDON COUNTY: *Transfer*—Walter C. Arthur to Beaver County Society.

LACKAWANNA COUNTY: *New Members*—E. T. Davis, Old Forge; Martin T. O'Malley, Scranton. *Death*—Alice Lillibridge (Woman's Med. Coll. of Pennsylvania, Philadelphia, '00) in Scranton, October 14, from heart disease, aged 43.

LAWRENCE COUNTY: *Death*—William G. Wilson (Cincinnati Coll. of Med. and Surg., '76) in New Castle, October 8, aged 62.

LEHIGH COUNTY: *Removal*—Edwin M. Bingaman from Old Zionsville to Bernharts (Berks Co.).

LUZERNE COUNTY: *New Members*—Raymond C. Creasy, Wilkes-Barre (by transfer from Philadelphia Co.); Barnett H. Cooper, Glen Lyon; Peter J. Gorman, Charles J. McFadden, Pittston; Samuel A. Ruffner, Kingston.

LYCOMING COUNTY: *Death*—Sidney Davis (Univ. of Pennsylvania, '77) in Milton (Northumberland Co.), October 17, from heart disease aged 60.

MONTGOMERY COUNTY: *New Member*—Morris B. Oberholtzer, Souderton.

PHILADELPHIA COUNTY: *New Members*—Emily G. Whitten Auge, John Brugger Becker, Nathan Blumberg, Herman Winfield Boehringer, Clarence Davis Bradley (by transfer from Armstrong Co.), T. Spotuas Burwell, Andrew D. Carter, Thomas W. Druce, H. Conrad Egly, Dwight Bailey Fuller, Henry Golden, Arthur H. Hopkins, Edward B. Krumbhaar, Jacob Levy, John H. Musser, Jr., John Raferty, Clara Reimel, William J. Ritter, William J. Ryan, J. Jacob Schoening, Frederick C. Smith, Henry S. Snyderman, Robert G. Torrey, J. Donald Zulich, Philadelphia. *Transfer*—Raymond C. Creasy to Luzerne County Society. *Removal*—Samuel H. Gilliland from Philadelphia to Marietta (Lancaster Co.). *Resigned*—Orville Horwitz.

SUSQUEHANNA COUNTY: *Death*—Samuel Birdsall (Bellevue Hosp., Med. Coll., '65) in Susquehanna, October 12, from arteriosclerosis, aged 70.

WARREN COUNTY: *New Member*—Ira A. Darling, Warren.

WAYNE COUNTY: *New Member*—Frank C. Frisbie, Equinunk.

Present membership 5830. S.

Payment of Per Capita Assessment.

Component county societies have paid their *per capita* assessment for the year September 1, 1912, to September 1, 1913, as shown below:—

Oct. 1,	Huntingdon County	$ 70.00
Oct. 1,	Dauphin County	270.00
Oct. 2,	York County	188.00
Oct. 3,	Adams County	36.00
Oct. 3,	Allegheny County	1644.00
Oct. 3,	Carbon County	56.00
Oct. 4,	Westmoreland County	228.00
Oct. 8,	Warren County	100.00
Oct. 9,	Montgomery County	182.00
Oct. 10,	Lehigh County	146.00
Oct. 11,	Sullivan County	20.00
Oct. 17,	McKean County	92.00
Oct. 17,	Wayne County	58.00
Oct. 19,	Philadelphia County	2800.00
Oct. 22,	Northampton County	210.00
Oct. 28,	Fayette County	204.00
Oct. 30,	Butler County	88.00
Nov. 6,	Clarion County	70.00

G. W. WAGONER, Treasurer.

STATE NEWS ITEMS.

BORN.

To Dr. and Mrs. C. P. Large, Meyersdale, October 31, a son.

To Dr. and Mrs. F. Otis Bryant, Chester, October 11, a daughter.

MARRIED.

Dr. William N. Ferguson and Miss Mary E. Powell, both of Philadelphia, October 16.

Dr. Edward H. Goodman and Miss May Dudley, both of Philadelphia, November 10.

Dr. John W. Bruner, Bloomsburg, and Miss Margaret Eves, in Philadelphia, October 9.

Dr. Norman B. Shepler, Harrisburg, and Miss I. Corinne Gaul, Philadelphia, October 2.

Dr. Jameson Budd Reasor, Martins Creek, and Miss Dorothy O. Swilkey, in Philadelphia, October 12.

Dr. Herbert Maskell Goddard and Miss Janet Wallace Waddell, both of Philadelphia, October 16.

Dr. William Easterly Ashton, and Miss Caroline Eudora Sullivant, both of Philadelphia, October 16.

Dr. Joseph M. Weaver, Allentown, and Mrs. Frances Pierson Jones, Meadville, at Baltimore, September 25.

Dr. George Thomas Lukens, Conshohocken, and Miss Anna Elizabeth Brookie, Philadelphia, October 23.

DIED.

Dr. Harry Medley (Univ. of Pittsburgh, '02) in Tarentum, October 23, aged 32.

Dr. Jacob Welty Rugh (Jefferson Med. Coll., '51) in New Alexandria, September 27, aged 85.

Dr. Oscar Leedom (Univ. of Pennsylvania, '72) in Plymouth Meeting, October 14, aged 60.

Dr. Samuel Dale Clarke (College of Phys. and Surg., Keokuk, Ia., '79) in Oakmont, October 8, aged 68.

Dr. William H. Robinson (Univ. of Pennsylvania, '68) in Pottsville, November 4, after a few days' illness, aged 45.

Dr. Bradley W. Yielding (Medico-Chi. Coll., Philadelphia, '99) in Meshoppen, October 11, as the result of an automobile accident, aged 43.

Dr. George W. Maust (Hahnemann Med. Coll., Philadelphia, '93) of Lock Haven, in Philadelphia, September 27, from nephritis, aged 47.

ITEMS.

Dr. J. W. Ellenberger, Harrisburg, left on November 1 for Nauheim, Germany.

The Chambersburg Hospital is bequeathed $5000 by the will of the late Frank Lindsay.

Dr. E. C. Wagner, Wilkes-Barre, has returned from Philadelphia, where he did postgraduate work.

Diphtheria at Allentown. More than 130 cases of diphtheria have been reported in Allentown.

Dr. John E. Scheifly, Kingston, is taking a special course on the Eye at Jefferson and Wills Hospitals, Philadelphia.

Dr. Samuel G. Dixon was on November 12 notified by the Maryland authorities of the presence in Cumberland, Md., of several cases of virulent smallpox.

The Allentown Training School for Nurses held its twelfth commencement, at which twelve nurses received diplomas, Dr. Charles D. Schaeffer, surgeon-in-chief, presiding.

Diphtheria at Lewistown Sufficient to Close Schools. Twenty patients have been thoroughly isolated but, in defiance of all efforts to stamp out the disease, new cases are being reported.

Dr. George W. Guthrie, Wilkes-Barre, delivered the address at the tenth annual commencement of the Robert Packer Hospital Training School for Nurses, Sayre, October 22, when ten nurses received diplomas.

Dr. W. C. Turnbull of Philadelphia, now in charge of the State Tuberculosis Dispensary in the northeast portion of Philadelphia, has been appointed physician to the new State Tuberculosis Sanatorium at Cresson.

The Woman's Medical College of Pennsylvania will change its entrance requirements beginning with the session of 1914-15, to accord with the minimum requirements of the American Medical Association for Colleges in "Class A."

A General Hospital at Abington. A movement is on foot to raise funds for this building just outside of Philadelphia. Those interested plan to raise a quarter of a million dollars; about ten thousand dollars has already been subscribed.

Typhoid Fever. Carelessness and ignorance of milk dealers are said to be the cause of the epidemics of typhoid fever at Norristown and Paoli, Montgomery County: Finland, Bucks County; and Yeagertown, Mifflin County. There have been 151 cases with numerous deaths.

Dr. George W. McCafferty, Jr., formerly assistant physician in the department of insane women, Pennsylvania Hospital for Insane, Philadelphia, has recently been appointed first assistant physician to Dr. Thomas C. Fitzsimmons, State Hospital for Criminal Insane, Fairview.

The Central Pennsylvania Branch of the Jefferson Alumni Association was organized at Altoona on October 15, when Dr. J. E. Smith, Altoona, was elected president; Dr. Charles F. McBurney, Altoona, secretary; Dr. J. P. Getter, Belleville, treasurer, and Dr. John B. Lowman, Johnstown, chairman of the executive committee.

Hon. John L. Hamery, ex-director of public safety, Des Moines, Ia., addressed a public meeting under the auspices of the Pennsylvania Society for the Prevention of Social Disease, in Witherspoon Hall, Philadelphia, October 30, his subject being "How Des Moines Was Rid of Public Prostitution by Common Sense Methods."

Vital Statistics. The State Department of Health reports that during the month of August there occurred in Pennsylvania, 9155 deaths, while the total number of births was 18,480. Of the deaths, 616 were caused by tuberculosis of the lungs, 121 by tuberculosis of other organs, 116 by mine accidents, 115 by railway accidents; 486 by other forms of violence.

Dr. L. B. Woodcock, Scranton, writes the JOURNAL regarding recent reports printed concerning himself: To those of the profession whom I have not had the pleasure of knowing I wish to say that the sentimental irrational statements attributed to me were the reporter's own and entirely without my sanction. To my friends no explanation is necessary.

Physicians as Lawmakers. Dr. A. J. Barchfeld, Pittsburgh, was reëlected a member of Congress; Dr. D. P. Gerberich, Lebanon, was reëlected state senator; Drs. Jonathan Currier, Grampian, Clearfield County, and Philip C. Newbaker, Danville, were reëlected representatives; Dr. Frederick S. Kaufman, Lebanon, and Dr. Charles J. Hemminger, Rockwood, Somerset County, were also elected representatives.

The Meeting of the Philadelphia County Medical Society, October 23, was held in the Banquet Room at the Roosevelt. The lecturers of the evening were members of the staff of the

Johns Hopkins University. After the scientific program, refreshments were served without cost to the members. There were about three hundred present. This combination of a social feature with the scientific program is an innovation in the Philadelphia County Society meetings.

Opposes School Athletics. State Superintendent N. C. Schaeffer says: "I believe that the code gives the school board the power to secure anything they think advisable along the line of athletic instruction," but he adds: "Harrisburg has never favored athletics in the high school. In the first place most high school pupils are not old enough to enter into a course of training that would fit them for a game like football. Physically it would hurt them ultimately and in addition it takes their mind from their studies.

Fight against Tuberculosis. The Pittsburgh Typographical Union, No. 7, observed Tuberculosis Sunday, October 27, by special addresses at Harris' Theater. The International Typographical Union, numbering over 700 locals and 60,000 members, some years ago started to fight consumption, which at that time depleted the ranks of the printers at a higher rate than all other diseases combined. A tuberculosis sanatorium was added to the Union Printers' Home at Colorado Springs, Col., and in the last twelve years the average longevity among printers has risen from 41.25 years to 48.09 years.

The Children's Hospital of Philadelphia has acquired a tract of land on Eighteenth Street, between Bainbridge and Fitzwater, through a gift of one hundred thousand dollars by one of the managers. There is to be erected one of the most modern institutions in the world for the care of children. This new hospital will have a prophylactic dispensary where mothers will be taught how to keep their children well. This dispensary is to be under the care of Dr. Howard Childs Carpenter. An active campaign for the raising of a million dollars, one half of which is to be expended for buildings and the other half to be used as an endowment, will soon be started. In the meantime, an outpatient annex is being built at once.

The Pennsylvania State Vaccination Commission has just examined Dr. Charles Creighton, an English physician, who is ranked as the most prominent antivaccinationist in his country. In the course of the examination, Dr. Creighton admitted that he had never been officially connected with an institution at which smallpox was treated; that he had personal knowledge of less than a hundred cases of smallpox and had the complete history of but one case,—that of his own. He further admitted that the only figures known to him (those relating to the smallpox epidemic of 1871) showed an advantage for those persons previously vaccinated. After numerous exceptions taken by him to these figures, he had to admit that there was, at least, a difference of eight per cent. in favor of the vaccinated. For one who posed as an expert on the subject, he showed a ludicrous ignorance of current knowledge of the subject.

GENERAL NEWS ITEMS.

The Lane Medical Library of the Leland Stanford, Jr., University, San Francisco, Cal., was dedicated November 3.

Major General Robert Maitland O'Reilly, U. S. A., died at Washington, November 3, after a week's illness of Bright's disease.

Common Drinking Cups have been forbidden on all trains engaged in interstate traffic, by Secretary of the Treasury MacVeagh.

Johns Hopkins Medical School now has 355 students and fifty others were refused admittance prior to the beginning of the session.

The Northern Nut Growers Association will hold its third annual meeting at Lancaster, Pa., December 18 and 19. The secretary is Dr. W. C. Deming, Westchester, New York City.

Dr. Paul Segond, professor of the surgical clinic of the faculty of medicine of the University of Paris and surgeon-in-chief of the Salpetriere, died October 27 in Paris, from syncope following uremia.

Dr. Annie M. L. Potts, believed to have been the last surviving member of the first class to graduate from the Woman's Medical College, Philadelphia, died at San Diego, Cal., recently, aged 84. Before retiring to San Diego, Dr. Potts toured the world, lecturing to women on the laws of health.

Sterilization Legislation Constitutional. The Supreme Court of the State of Washington on September 3 handed down a decision sustaining the law and affirming its constitutionality. Eight states, Indiana, Washington, California, Connecticut, New Jersey, Nevada, Iowa and New York have taken action. (*Jour. A. M. A.*, October 19, p. 1474.)

Mississippi Valley Medical Association. At the thirteenth annual meeting of this association, held in Chicago, October 22-24, Dr. Albert E. Sterne, Indianapolis, was elected president, and Dr. Henry Enos Tuley, Louisville, was reelected secretary. Dr. Charles H. Frazier, Philadelphia, read a paper on "Considerations of Procedures Adapted to the Exposure of Structures at the Base of the Skull," and Dr. John B. Deaver, Philadelphia, read a paper on "Pancreatic Lymphangitis and Chronic Pancreatitis." The next meeting will be held in New Orleans.

The Chicago Medical Society is the largest county medical society in the world. The president of the Illinois State Medical Society at its last meeting claimed second place as to membership in state societies, and this claim was repeated in the *Bulletin* of the Chicago Medical Society for October. The certified membership on May 1, 1912, furnished to the American Medical Association by the state secretaries gave the membership of New York as 7088; Pennsylvania, 5724; and Illinois, 5647.

The membership of the Medical Society of the State of Pennsylvania on November 6, 1912, was 5830.

The American Surgical Association has appointed a committee consisting of Drs. William L. Estes, South Bethlehem, Pa.; Thomas W. Huntington, San Francisco, Cal.; John B. Walker, New York; Edward Martin and John B. Roberts, Philadelphia, to report on the operative and nonoperative treatment of closed and open fractures of the long bones and the value of radiography in the study of these injuries. Surgeons who have published papers relating to this subject within the last ten years, will confer a favor by sending two reprints to the chairman of the committee. If no reprints are available, the titles and places of their publication are desired. Dr. John B. Roberts, Chairman, 313 S. 17th Street, Philadelphia.

A Medical Study of the Alcoholic Problem. In 1870 a number of prominent physicians and medical experts formed an organization in New York City, called the American Society for the Study of Alcohol and Other Narcotics. This was the first medical association in the world to take up the scientific study of alcohol and inebriety, and determine from experience, laboratory studies and groupings of facts, the phenomena and disease of the spirit and drug neuroses. The special purpose was to examine this subject above all theories and conclusions, particularly along its etiologic, physiologic, therapeutic and medicolegal relations: also to compile and make available such studies for home, office and institutional treatment, and point out the remedies and prophylactic measures for restoration and cure. The forty-second annual meeting of this society will be held in Washington, D.C., December 10 and 11, 1912. A large program of scientific papers by medical men, many of them distinguished foreigners, will be presented. This meeting and the subjects discussed will attract a great deal of attention, not only among medical men, but an increasing number of laymen, who have intense personal interest in the great questions of alcohol and drug taking. Programs and further information can be had by addressing Dr. T. D. Crothers, Secretary, Hartford, Conn.

New and Nonofficial Remedies. In addition to those previously reported (Journal, September, 1912), the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with New and Nonofficial Remedies.

Plague bacterin, a bacillus pestis vaccine, marketed a single-dose vaccination, 1 c.c. ampules containing 5 billion killed B. pestis. Also marketed in two-dose vaccination, for one immunization, 1 c. c. ampules containing respectively 1 billion and 2 billion killed B. pestis. The second dose is to be injected from seven to ten days later or when the reaction to the first injection has subsided. H. K. Mulford Co., Philadelphia (*Jour. A. M. A.*, Oct. 12, 1912, p. 1377).

Staphylo-strepto-bacterin mixed is a mixed vaccine marketed in a package of four syringes containing increasing doses of killed staphylococcus pyogenes aureus, killed staphylococcus pyogenes albus and killed streptococcus. H. K. Mulford Co., Philadelphia (*Jour. A. M. A.*, Oct. 12).

Diphtheria antitoxin, U. S. P., marketed in syringes containing 1000, 2000, 3000, 4000 and 5000 units: also in bulbs. Diphtheria antitoxin globulin marketed in syringes containing 1000 units. Cutter Laboratory, Berkeley, Cal. (*Jour. A. M. A.*, Oct. 12).

Detre differential test consists of tubes containing respectively tuberculin O. T., tuberculin B. F. human, and tuberculin B. F. bovine. Cutter Laboratory, Berkeley, Cal. (*Jour. A. M. A.*, Oct. 12).

Tuberculin O. T. (dilution) Von Pirquet's reaction, marketed in packages containing ten capillary tubes and one ejecting bulb. Cutter Laboratory, Berkeley, Cal. (*Jour. A. M. A.*, Oct. 12).

Glycerinated vaccine virus is a vaccine virus marketed in packages containing respectively five and ten capillary tubes. The Slee Laboratories, Swiftwater, Pa. (Abbott Alkaloidal Co., Chicago) (*Jour. A. M. A.*, Oct. 12).

Bismuth betanaphtholate, Merck, is a nonproprietary article and complies with the tests laid down in New and Nonofficial Remedies for bismuth betanaphtholate. Merck and Co., New York (*Jour. A. M. A.*, Oct. 12).

Also the following: Casoid diabetic flour, Thomas Leeming and Co.; paratophan, Schering and Glatz; phenoco, West Disinfecting Co.; tuberculin B. E., tuberculin B. E. bovine, tuberculin O. T. bovine, tuberculin T. R., tuberculin T. R. bovine, tuberculin ointment (Moro's reaction), tuberculin for the thermal reaction, Cutter Laboratory.

Conference of State Secretaries. One of the most important meetings since the reorganization of the American Medical Association at St. Paul, in 1901, was the Conference of the Secretaries of State Societies, called by the Committee on Uniform Regulation of Membership at the association headquarters, Chicago, October 23 and 24. This committee was appointed in 1908, in accordance with a recommendation made in the secretary's report for that year. At the Atlantic City session, last June, the committee summarized its reports for the last four years, and recommended that a conference of state secretaries be authorized to consider the entire question of membership conditions in the county, state and national organizations. This recommendation was referred to the Board of Trustees and a conference between the committee and the state secretaries was authorized by the Board of Trustees, to be held at the same time as the October meeting of the board. Appropriations were made for paying the expenses of all state secretaries who attended the meeting. The conference was called to order at 10:30 A.M., Wednesday, October 23, at the association building in Chicago, by Dr. Thomas McDavitt, secretary of the Minnesota State

Medical Association and chairman of the Committee on Uniform Regulation of Membership.

Thirty-eight states were represented, the roll showing the following in attendance: Drs. W. W. Watkins, Arizona; C. P. Meriwether, Arkansas; Philip Mills Jones, California; G. W. K. Forrest, Delaware; W. C. Lyle, Georgia; E. E. Maxey, Idaho; E. W. Weis, Illinois; Charles N. Combs, Indiana; J. W. Osborn, Iowa; L. R. DeBuys, Louisiana; W. B. Moulton, Maine; W. S. Gardner, Maryland; H. D. Arnold, Massachusetts; Wilfrid Haughey, Michigan; Thomas McDavitt, Minnesota; E. F. Howard, Mississippi; E. J. Goodwin, Missouri; H. D. Kistler, Montana; Joseph M. Aikin, Nebraska; Martin A. Robison, Nevada; D.E. Sullivan, New Hampshire; Thomas N. Gray, New Jersey; R. E. McBride, New Mexico; John Ferrell, North Carolina; H. J. Rowe, North Dakota; J. H. J. Upham, Ohio; Claude A. Thompson, Oklahoma; M. B. Marcellus, Oregon; C. L. Stevens, Pennsylvania; J. Perkins, Rhode Island; Edgar A. Hines, South Carolina; Perry Bromberg, Tennessee; H. Taylor, Texas; W. B. Ewing, Utah; C. H. Beecher, Vermont; Grant Calhoun, Washington; Charles S. Sheldon, Wisconsin; W. H. Roberts, Wyoming.

The following program was carried out:—

1. Call to order, Dr. Thomas McDavitt.

2. "History and Development of Membership in the American Medical Association and Its Component Parts," Dr. F. R. Green.

3. "Some of the Difficulties of the Present Situation," Dr. A. R. Craig.

4. "Remedies Proposed by the Committee," Dr. Thomas McDavitt.

A general discussion of membership regulation was conducted under the following heads:—

1. Fiscal Year. Should the fiscal year coincide with the calendar year? Should the fiscal year be the same in all county and state societies?

2. Should membership expire automatically at the end of the calendar year, and a new roster for each county and state society be made with the beginning of each year?

3. When should membership reports from county secretaries to state secretaries be due?

4. Should the dues of new members, joining after the first of the year, be prorated for the remainder of the year?

5. Should an admission fee be required in addition to the annual dues?

6. Should uniform application blanks, receipt blanks, and membership and transfer cards be adopted?

7. Should constituent state associations hold charters from the American Medical Association?

8. Should a uniform plan for the transfer of members be adopted?

In addition to the above Dr. George H. Simmons, editor and general manager, discussed the question of membership in the American Medical Association, and the changes in name proposed by the Board of Trustees.

After two days' discussion it was evident that the secretaries present were agreed as to the advisability of a uniform fiscal year for all parts of the organization, to coincide with the calendar year, and that they favored the expiration of membership at the end of each year and a complete revision of the membership rolls at the beginning of each year. The committee on recommendations, consisting of Drs. E. J. Goodwin, Missouri; Wilfrid Haughey, Michigan; Perry Bromberg, Tennessee; William S. Gardner, Maryland, and Dr. F. R. Green, secretary of the committee and of the Council on Health and Public Instruction, brought in a report recommending the adoption of provisions on these two points, and that all other points be deferred for further consideration. The report of the committee follows:—

1. We recommend that this conference endorse the plan of having the fiscal year coincide with the calendar year in all parts of the organization. We further recommend that secretaries of all state associations which have not already adopted this provision bring this matter to the attention of their associations and recommend its adoption.

2. We recommend that constituent state associations adopt provisions making dues in component societies payable on January 1 of each year, and requiring county secretaries to report to state secretaries all members in good standing, together with their *per capita* assessment for the current year not later than March 31. State societies desiring to do so may provide a shorter period.

3. The recommendation regarding the third question under discussion is covered by our recommendation of the second.

4. Regarding the prorating of dues, we recommend that this be made optional with each component society.

5. Regarding an admission fee for membership we recommend that this be made optional with component societies.

6. While the committee recognizes, as a general principle, that a uniform system of blanks for county and state societies is desirable, as soon as practicable, we recommend further consideration of this question at a later conference.

7. We recommend that the House of Delegates of the American Medical Association be asked to consider the advisability of issuing charters to constituent state associations.

8. We recognize the desirability and advantage of a uniform method of transfer, but this system can not be established until there has been developed a great uniformity in other details of organization. We therefore recommend that this question be made the subject of discussion at a future conference.

The report of the committee was unanimously adopted by a rising vote. It was also moved and carried that the secretary be requested to send copies of the report to each state secretary and to each state journal, and that the proceedings of the conference, as published in the *Bulletin*, be furnished to each state secretary desiring them, in sufficient quantities to send one to each member of the state association.

After a vote of thanks to the Board of Trustees for making this conference possible by the appropriation, the conference adjourned.—Condensed from *Jour. A. M. A.*, November 2, 1912.

COMMUNICATIONS.

A PROBLEM IN DIPHTHERIA.

To the Editor: A general practitioner will occasionally be confronted with a problem in the course of his routine of professional work that is difficult to solve, and, in consulting his textbooks, finds no precedent by which to be guided. If he happens to be a country doctor, he has no opportunity to discuss the case with a fellow practitioner.

About a year ago I had a bad case of diphtheria in a family of six children, ranging from ten years down to a three months old nursing baby. I immediately isolated the sick boy, installing the father as nurse, and gave all the rest the immunizing dose of antitoxin. I did not give the mother any antitoxin, but cautioned her to keep out of the sick room. The boy was seriously ill with laryngeal involvement, and the mother, fearing that he might die, disobeyed orders going into the sick room. A few days later she came down with a bad attack. What to do with the nursing infant was the problem, especially as the babe was not well at the time, and needed the mother's milk. It was impossible to get a nurse, and I felt that the infant had a better chance by staying with the mother and having the benefit of her breast milk. I reasoned that if the babe nursed diphtheria germs, it would also nurse immunity from the large doses of antitoxin I gave the mother. My theory proved correct, as the babe thrived throughout the mother's illness. Mother and the sick boy made an excellent recovery.

Frank N. Yeager, M.D., Hamilton.

Why not have the consultation now for the benefit of any of our isolated readers? The country practitioner confronts conditions that can not be appreciated by those not on the field when reading any report of a certain case. The following are some of the questions that might be asked in the consultation. 1. Why not give a nursing mother an immunizing dose of antitoxin? 2. Can a baby nurse diphtheria germs through the milk? 3. Did the baby nurse immunity through the mother's milk or was it simply an illustration of the fact that a nursing infant often fails to contract measles and other contagious diseases? 4. If the baby had contracted diphtheria would it, probably, have been due to contact with the mother or to the mother's milk? 5. What size immunizing dose shall we give for the adult, for the child of four years and for the child of one year?

The above communication and the subjoined questions were submitted to a few readers in advance of publication with the request that brief answers to any of the five questions be given for publication with the communication. Following are some of the anwers.—Editor.

Dr. A. C. Abbott, Philadelphia:—

1. A nursing mother should be given an immunizing dose of diphtheria antitoxin.

2. There is no evidence to justify an affirmative answer to this question.

3. The only known route for the transference of immunity from a nursing mother to her baby is by way of the milk. In the writer's opinion the milk is also the route by which nursing mothers frequently transmit to their babies immunity from the other acute infections of infancy.

4. It would have been due to direct contact with the diphtheric mother (See answer 2).

5. The immunizing dose of diphtheria antitoxin for an adult should not be less than 1000 units; for a child, not less than 600 units; for a baby, not less than 400 units. In all cases the antitoxin should be concentrated to a point that will insure the above amounts of the protective agent in the smallest bulk of the vehicle.

Dr. Howard Childs Carpenter, Philadelphia:—

1. There is no reason why a nursing mother should not receive an immunizing dose of antitoxin.

2. An extremely remote possibility.

3. The baby nursed immunity through the mother's milk.

4. It would have been due to contact with the mother.

5. Immunizing doses: Adult, 3000; four years old, 1200; one year old, 500.

Dr. Samuel G. Dixon, Harrisburg:—

1. No reason why the nursing mother should not be given an immunizing dose of diphtheria antitoxin.

2. I have never found diphtheria microorganisms in human milk.

3. The babe's age likely accounts for its not contracting the disease as it was exposed to the infection before the mother was treated. It might, however, have been the antitoxin administered to the mother.

4. If the baby had contracted the disease it would have been from contact.

5. Never knew of any harm in using 1000 units for immunization of infants. We use the same dose for all ages.

Dr. Augustus A. Eshner, Philadelphia:—

1. In the absence of any special contraindication I should not hesitate to give a nursing mother an immunizing dose of diphtheria antitoxin.

2. The infection of diphtheria is essentially local, and a nursing baby is not likely to be infected with diphtheria through the milk of its nursing mother, suffering from that disease.

3. An infant might acquire some degree of immunity through the milk of its nursing mother suffering or convalescent from diphtheria, but in the case reported it seems most probable that the child escaped either by accident or by reason of individual insusceptibility possibly intensified through the milk of its mother.

5. I should give 1000 units of antitoxin to an adult for immunizing purposes, about 750 units to a child four years old, and about 500 units to a child one year old.

In the spirit in which the editor has undertaken this symposium I would venture to suggest that discussions of the nature of that contained in Dr. Yeager's communication should prove appropriate and interesting, as well as useful, at meetings of the local county medical society.

Dr. Joseph McFarland, Philadelphia:—

1. So far as I am aware, there is no practical or theoretical reason why this should not be done. Indeed, it seems to be the only proper thing to do if there has been dangerous exposure.

2. No. The diphtheria bacillus does not enter the blood and circulate in it except in very rare cases—so rare that they can be excluded from a general statement. Not being in the blood they have no way of entering the milk.

3. It might be either or both. It is well known that very young infants have greater resisting power against diphtheria than older children and this resistance has been referred by Fischer and Wunschheim (*Zeitschrift fur Hygiene*, 1895, xiv., p. 429) to the presence of a natural antagonistic principle that they believed to have demonstrated in the blood serum of the young children. Antitoxin serum, when given hypodermically for experimental or therapeutic purposes, gradually leaves the body in all of its eliminations, one of which is the milk. Ehrlich early observed that the milk contained a good deal of it, and in his researches upon ricin (*Deutsche med.Wochensch.*, 1891, Nos. 32-44) found that young mice acquired immunity against the toxalbumin through the milk of the mother that nursed them.

4. It must be by contact, not through the milk.

5. For an adult, 1000 units is usually enough; for a child of any age, 500 units may be enough. It is well, however, to be upon the side of excess.

Dr. Harold A. Miller, Pittsburgh:—

1. There could be no possible objection to giving an expected or an actual mother an immunizing dose of diphtheria antitoxin, and my personal experience covers several of these cases without interference to the breast secretion. This prophylactic treatment also includes the necessity of vaccination and probably typhoid immunization without harmful or deleterious results to the nursing infant.

2. Nursing babies can survive and do well upon the milk of women suffering from diphtheria, typhoid and nearly all acute conditions. the breast milk in the majority of these cases contains a very high percentage of proteids and sometimes other understood protein substances which may not agree with the infant but it is always safe to apply the therapeutic test.

4. I do not believe breast milk ever contains bacteria of the disease from which the patient is suffering and if a nursing infant should contract this particular disease it would probably be through some other source.

Dr. Thomas G. Simonton, Pittsburgh:—

1. No objection to giving mother an immunizing dose. Would strongly urge it.

2. Chances are rather remote.

3. Baby nursed immunity through the milk when mother received antitoxin serum.

4. Contact with the mother.

5. Adult, 1000-1500 antitoxin units; child, four years, 500; child, one year, 300-500.

Dr. William M. Welch, Philadelphia:—

1. The mother and the baby should each receive an immunizing dose of antitoxin.

2. I do not think the danger of transmitting diphtheria germs to an infant through the mother's milk is great; but it is not improbable the milk may contain the toxic products of the diphtheria bacilli, and should therefore be regarded as unwholesome, even dangerous when the infection of the mother is at all severe.

3. The milk may have contained antitoxin sufficient to immunize the baby. Young children, even babies, are as a rule very susceptible to diphtheria. They do not show anything like the degree of immunity to this disease that they do to measles and scarlet fever. Some persons, however, seem naturally immune to diphtheria.

4. I should say through exposure to the mother, rather than through the mother's milk.

5. Let the immunizing dose of antitoxin be about 1000 units, without paying much regard to the age of the individual.

STATE HOSPITAL FOR INEBRIATES.

To the Editor: In a recent address by Judge Walling of Erie before the State Association of the Poor Directors, he expressed the view that the most pressing need of this state at the present time is a state hospital for inebriates and that we should press forward to get one. I feel quite confident that sooner or later we shall have a state hospital for inebriates. Let us work that it may come sooner rather than later.

In some ways I am rather glad that the Committee on Inebriate Hospital of the state society was discontinued; for I felt a little embarrassment in going on year after year without accomplishing anything and at the same time putting the society to some expense. I suppose the committee was dropped to simplify the organization of the society and to save expense.

However, I continue my interest in the object for which our committee was created; and I propose to make some effort this fall, unofficially and in my individual capacity.

I should be very glad to hear from any member of the state society or indeed any good men in the state, physicians or laymen, who believe that Pennsylvania should build a state hospital for inebriates and who are willing to do what they can to accomplish this end.

Theodore Diller.

Pittsburgh, October 31, 1912.

DIVISION OF FEES.

Pittsburgh, October 28, 1912.

To the Editor: I am enclosing a letter which I received this morning and a copy of the reply thereto. You may publish both in the JOURNAL if you think it worth while. I may say that this is only the second time I have been approached in this manner during my twenty years' practice in Pittsburgh.

THEODORE DILLER.

Theodore Diller, M.D.,
Pittsburgh.

Dear Doctor:—I have been referred to you as being a specialist on nervous diseases; under what conditions would you take a patient of mine? This patient is in moderate circumstances and would like to go somewhere where she would get good treatment and rest. If I would turn over this case to you what compensation could you allow me? Hoping to hear from you by return mail,

Dr. ....

Dear Doctor:—For me to offer compensation or for you to receive one under the circumstances mentioned in your letter would in my opinion be wrong. It is against the sentiment and the written law of the medical profession and it would be against my own individual standard of conduct.

THEODORE DILLER.

DISPENSARY ABUSE.

To the Editor: At a meeting of the Committee on Hospital Dispensary Abuse of Philadelphia County Medical Society, held October 24, 1912, at the residence of the chairman, Dr. C. B. Longenecker, 3416 Baring Street, the appended copy of a New York law as now in force was adopted with the recommendation that all hospitals and dispensaries in the State of Pennsylvania be included.

JOSEPH D. FARRAR,
Secretary of Committee.

THE LAW IN RELATION TO DISPENSARIES. SECTIONS 290-296 OF CHAPTER 55 OF THE CONSOLIDATED LAWS.

Section 290. Definition of dispensary.—For the purposes of this article, a "dispensary" is declared to be any person, corporation, institution, association, or agent, whose purpose it is, either independently or in connection with any other purpose, to furnish, at any place or places, to persons nonresident therein, either gratuitously or for a compensation determined without reference to the value of the thing furnished, medical or surgical advice or treatment, medicine or apparatus, provided, however, that the moneys used by and for the purposes of said dispensary shall be derived wholly or in part from trust funds, public moneys, or sources other than the individuals constituting said dispensary and the persons actually engaged in the distribution of charities of said dispensary.

Section 291. Licensing of dispensaries by the state board of charities.—A license may be issued by the state board of charities to a dispensary, as provided in this section. An application in writing for such license shall be made to such board in the form and manner prescribed by it, which shall be uniform for all schools of medicine. There shall be attached to such application a statement, verified by the oath of the applicant, containing such facts as the board may require. If, in the judgment of such board, the statement filed, and other evidence submitted in relation to such application, indicate that the operations of said dispensary will be for the public benefit, a license shall be issued to the dispensary applying therefor. The form of such license shall be prescribed by the board. A dispensary shall not enter upon the execution, or continue the prosecution of its purpose unless licensed by the state board of charities, as provided in this article. A license shall be issued, on application, to all dispensaries legally incorporated, and to unincorporated dispensaries conducted in connection with incorporated institutions on April eighteenth, eighteen hundred and ninety-nine.

Section 292. Rules and regulations.—The state board of charities shall make rules and regulations, and alter or amend the same, in accordance with which all dispensaries shall furnish and applicants obtain medical or surgical relief, advice or treatment, medicine or apparatus. But such rules and regulations shall not in any case specify the particular school of medicine in accordance with which a dispensary shall manage or conduct its work or determine the kind of medical or surgical treatment to be provided by any dispensary.

Section 293. Revocation of licenses.—The state board of charities or any of its members may at any and all times visit and inspect licensed dispensaries. They may examine all matters in relation to said dispensaries, and ascertain how far they are conducted in compliance with this law and the rules and regulations of the board. After due notice to a dispensary, and opportunity for it to be heard, the board may, if public interest demands, and for just and reasonable cause, revoke a license by an order signed and attested by the president and secretary of the board. Such order shall state the reason for revoking such license, and shall take effect within such time after the service thereof upon the dispensary as the board shall determine. The said board is hereby directed to apply to the supreme court to revoke the license and annul the incorporation of any dispensary legally incorporated, or conducted in connection with an incorporated institution on April eighteenth, eighteen hundred and ninety-nine, for willful violation of the rules and regulations made by said board.

Section 294. Drug store or tenement house not to be used by dispensary; unlawful display of signs.—After April eighteenth, eighteen hundred and ninety-nine, no dispensary shall make use of any place commonly known as a drug store, or any place or building defined by law or by an ordinance of the board of health as a tenement house: nor after such time shall any person, corporation, institution, society, association or agent thereof, except a duly licensed dispensary, display or cause to be displayed a sign or other thing which could directly or indirectly or by suggestion indicate the existence of the equivalent, in purpose and effect, of a dispensary.

Section 295. Violation of article, misdemeanor.—Any person who willfully violates any of the provisions of this article, or any of the rules and regulations made and published under the authority of this article shall be guilty of a misdemeanor, and on conviction thereof, shall be punished by a fine of not less than ten dollars and not more than two hundred and fifty dollars.

Section 296. Obtaining surgical or medical treatment on false representations, misdemeanor.—Any person who obtains medical or surgical treatment on false representations from any dispensary licensed under the provisions of this article, shall be guilty of a misdemeanor, and on conviction thereof shall be punished by a fine of not less than ten dollars and not more than two hundred and fifty dollars.

TROY TYPHOID FEVER EPIDEMIC.

The epidemic of typhoid fever in Troy, Bradford County, which occurred during October, 1912, had its origin as a water-borne infection. The water supply under municipal control was designed to be obtained from a system of springs and the ground water of a natural gravel formation. The west branch of Sugar Creek flows over the collecting system; as was eventually shown the waters of this stream leak directly into the main collecting reservoir.

Extensive repairs and alterations had been recently made to the water system, the work beginning in [illegible] in June and ending on or about September 10. Fourteen men were employed more or less constantly in this work but none are [illegible] previously to have had an attack of typhoid fever. There was considerable excavating and at this time the waters of the creek flowed into the reservoir over a long period of time.

There is but one case of typhoid fever reported as developing in or near Troy during the period of these alterations. This patient was not employed by the borough on the waterworks system and he denies having been at any time on or near the main stream or tributaries of the west branch of Sugar Creek. However, there was a case of typhoid fever in an adult male, residing near a small run which empties directly into the west branch of Sugar Creek. His illness occurred during March, 1912. The discharges from this patient are said to have been treated with a lime solution and buried in a trench, which was located some fifty feet above and somewhat less than one hundred feet from the stream. One examination of the discharges from this patient shows that he, at the present time, is not a carrier. Frequent examinations, however, are being made in order to check up the intermittent appearance of the *Bacillus typhosus* in the discharges.

After a season during which there was less than the usual precipitation a heavy rainfall occurred on September 15 and again on September 22 to 25 inclusive. There is no local observer in Troy but observations made at Wellsboro, Tioga County, which is 28 miles west; at Elmira, N. Y., which is 25 miles north; at Towanda, Bradford County, which is 22 miles east, and at Williamsport, Lycoming County, which is 50 miles south, give the following picture:—

	Sept. 15-16	Sept. 22-25
Wellsboro	1.59	1.96 in.
Elmira	1.05	2.38 in.
Towanda	0.45 (4 hr.)	2.55 in.
Williamsport	0.24	2.38 in.

There was practically no rainfall between these two periods.

By direction of Dr. Samuel G. Dixon, commissioner of health, Mr. H. E. Moses, sanitary engineer, and myself proceeded to Troy on October 12. The following day we were joined by Dr. T. Ben Johnson, Jr., county medical inspector for Bradford County, who assisted in the direction of all measures to eliminate the disease and for a portion of the time was in charge. The first reports of the presence of the disease had reached the office of Dr. Dixon on October 11. A diagnosis had not been fully established until the week of October 7-12. Practically all of the early cases coming to the attention of physicians were distinctly atypical in type and, as was discovered afterward through biological examination, most of the early cases were infected by more than one member of the typho-colon group.

The inspection made on October 12 and the careful census of all reported cases established the source of infection as being a polluted water supply. The cases, as studied by dates of onsets, showed two distinct periods of infection, the first occurring between eleven to fourteen days after the rainfall of September 15 and the second eleven to fourteen days after the rainfall of September 22 to 25. The record of all subsequent cases confirmed this opinion.

The borough piping system was immediately put out of service and on October 13 a hypochlorite of lime treatment plant was established. The water in the reservoirs was treated with a solution of copper sulphate, drained through the service lines; the reservoirs were scrubbed and treated with a solution of copper sulphate. An artesian well, located near the reservoir, which on physical examination was not subject to suspicion, was put into service and gave a temporary supply for domestic and fire purposes. Subsequently, all water which was permitted to enter from other sources was treated and is being treated up to this date by hypochlorite of lime. At the same time warning notices were printed and distributed in public places warning the public against the danger of drinking the water until it had been boiled at least twenty minutes.

A complete sanitary inspection of the watershed and a sanitary survey of the entire borough was made by Inspectors Nightingale, Teats, Silliman, Fredericks, Yeager and

Aurand. The records of the inspection of the watershed showed a population of 35 in an area of three square miles. There were a total of twenty-five pollutions of the waters of the west branch of Sugar Creek, these covering kitchen, laundry, cesspool, and barnyard wastes. The sanitary survey of the properties in the borough showed a total population of 1343 persons in 367 occupied residences. There were 455 separate pollutions from borough premises. Within two weeks after the inspection service had begun, the pollutions of the watershed had been abated and the work of placing the town in a more sanitary condition was being rapidly forwarded.

The use of antityphoid vaccine was recommended on Sunday evening, October 13, and large supplies were immediately ordered. Dr. Dixon offered vaccine free of charge to the indigent population. Later, the borough authorities established a station and gave free vaccination to every individual who should present him- or herself. This was particularly fortunate as the local physicians were totally unable to perform this service and care for the many persons who were already ill. Physicians from neighboring points offered their services free of charge, which were gratefully accepted. and in coöperation with physicians from the State Department of Health, Drs. T. Ben Johnson, Jr., Towanda, and J.W. Parsons, W. T. Davison, A. E. Dann and H. C. Wooley, Canton, vaccinated 328 persons during the two evenings of October 21 and 22. In all 762 persons or 56.8 per cent. of the population were inoculated with antityphoid vaccine, of which twenty-nine subsequently developed typhoid fever. A discussion of this subject will be presented in a future article. The type of the vaccine used, for the most part, was a mixed vaccine containing in addition to *Bacillus typhosus, B. paratyphosus A. and B.* There is no doubt, from the studies made, that this was a great factor in the prevention of the illness of many and in those patients who were already in the incipient stage, it served to modify the subsequent course.

On October 16 an Emergency Hospital was opened by authority of the board of health and borough councils. It was placed under the direction of Miss Alice O'Halloran and Miss Margaret Parsons, supervising nurses for the State Department of Health, their services being extended to the borough by Dr. Dixon. There was a total of forty-eight admissions with five deaths. Later the entire expense in connection with the hospital was assumed by the County Poor Commissioners.

The Visiting Nurses' Organization of the borough gave very great assistance to the borough authorities and to the establishment and maintenance of the hospital service and through their chief visiting nurse, Miss Thalia Wilson, organized an efficient district nurse work in all cases which could not, for various reasons, be admitted to the emergency hospital.

A Relief Organization, formed by the action of the borough authorities and many philanthropic citizens, was quickly put into service and supplies from near-by communities and even distant points in both Pennsylvania and New York were distributed to those who were in temporary need. These supplies consisted of sick-room necessities, food, clothing, money and the service of additional trained nurses.

Up to and including the date of writing this article, November 12, there have been 216 cases of typhoid fever reported in Troy and other points, all of which were traced to the one source of infection, and one case, a nurse, which was secondary to the patient she cared for. In other words, 16 per cent. of the total number of persons exposed developed the disease. No other notable epidemic in Pennsylvania has furnished the same morbidity. Plymouth, Luzerne County, suffered a typhoid fever epidemic in 1895, during which time the population was between 8000 and 9000, and 1104 or about 11 per cent. became ill; Butler, Bulter Co., and the contiguous communities, with a total population of 18,000 during 1903-04 had an epidemic in which 1348 persons, or about 7 per cent. developed typhoid fever. Troy has so far in the history of Pennsylvania shown the largest proportional number of persons becoming ill who swallowed the infecting agent. The mortality up to this date is 14, or about 6.7 per cent. This is relatively low, the average range of mortality being between 8 and 10 per cent. Thus, while a proportionally large number of the community developed the disease a relatively low mortality resulted. The factors contributing to this low mortality are several—a comparatively high physical resistance due to habits of life, the higher moral plane of the community, the larger number of families who are either wealthy or in independent circumstances, the universal employment of nurses, the establishment of an emergency hospital to care for those who could not employ nurses and the district nurse work.

A tabulation of 213 cases indicating the character of the epidemic gives certain interesting results. In the first place, the height of the first outbreak, as determined by dates of onsets and which followed the storm period of September 15, occurred on September 28, after which there was a marked reduction in the number of cases. An increase began on or about October 7, the highest number of cases on any one day reported being 17, the total number remaining high until October 18, when there began a marked reduction. This last period represents the heavy rainfall of September 22 to 25 inclusive. A study of the sexes shows that 117 females and 96 males became ill, that 35 per cent. of the total number were school children, while 47 per cent. were under twenty years of age. The major number of the cases were between eight and thirty years. A careful study of the milk supplies to the families afflicted with the disease shows that there were 67 sources of supply, 37 families owning their own cows. Of the total number, 106 used ice-cream from 10 different sources, it being homemade in 14 instances; while only 24 used shell fish at any time.

The blood of a large number of patients, particularly those who became ill early in the epidemic, was studied with reference to the agglutination reaction. The first cases gave a positive reaction in various combinations of the following microörganisms, *B. typhosus*, *B. paratyphosus B.*, *B. paracoli* and *B. enteritidis*. These occurred singly and in various combinations. The only individuals who showed a positive reaction to the four microörganisms are among those who died.

The analysis of the water supply showed large numbers of *B. coli* in specimens obtained from various points from the creek to the taps in the borough. A differential analysis of especially selected specimens showed the presence of the *Bacillus enteritidis* of Gaertner.

It is interesting to observe that among those who were early regarded as being possible cases of typhoid fever were a number whose only clinical symptoms were slight temperature, some prostration and well-developed dysentery. The blood of these individuals gave a positive agglutination reaction with the *B. enteritidis*. The results of the biologic studies made, will be presented in a future contribution.

CHARLES JACK HUNT, M.D.,
Associate Chief Medical Inspector, Department of Health, Harrisburg.

Prepared by direction of S. G. DIXON, M.D., Commissioner.

CORRECTION.

To the Editor: In the percentages that I gave you in your last month's issue there were several mistakes. The percentage of failures of the graduates of the Medico-Chirurgical in examinations in other states for 1911 should be 6⅔ instead of 10. The percentage of failures of the graduates of the University of Pennsylvania in other states for 1911 should be 7½ instead of 10. The percentage of failures of the graduates of the University of Pennsylvania in 1910 in other states should be 3 instead of 5: in the same year for other states the University of Pittsburgh should have been 30 instead of 90.

W. D. HAMAKER.

November 14, 1912.

REVIEW.

THE PRACTICE OF DENTISTRY. A Practical Treatise upon the General Practice of Dentistry, Operative and Prosthetic. exclusive of Orthopedic Practice. By Leo Greenbaum, M.D., D.D.S., Formerly Dean and Professor of Clinical Dentistry, Materia Medica and Anesthesia in the Philadelphia Dental College, and Max Greenbaum, D.D.S., Formerly Quiz-master in the Philadelphia Dental College. With 350 Illustrations. 8vo, pp. xxiii., 836. New York and London. D. Appleton and Company, 1912. Price $4.00.

It seems a little incongruous that dental surgery should constitute a branch of practice apart from general medicine. There is scarcely less reason why a dental surgeon should not be a graduate in medicine than that an oculist or an aurist or an orthopedist should not be. It is to be doubted whether the relations between disorders of the mouth and teeth and the general bodily activities are any less intimate than are those between disorders of the eyes or the ears or the bones and joints respectively and the same activities, and the reasons that require oculist, aurist and orthopedist to be graduates in medicine apply with equal force to the dental surgeon. Dental surgery surely would be the gainer from such a requirement. On the grounds stated the book before us should be of interest and utility to physicians, even though their practice may not invade this special field of activity. The work is divided into two sections: (I.) Operative Dentistry, and (II.) Prosthodotnia, and these comprise thirty-six chapters dealing successively with the following topics: Dentition, Dental Caries, Treatment of the Deciduous Teeth, Inlays, Hypersensitive Dentin, Erosion, Pyorrhea Alveolaris, Filling Materials, Diseases of the Dental Pulp, Diseases of the Pericementum, Conservation of the Dental Pulp, Removal of the Dental Pulp, Root-canal Filling, Exclusion of Moisture During Operations, Separation of Teeth Preparatory to Filling, Oral Hygiene, Discoloration of the Teeth, Plantation of Teeth, Extraction of Teeth, Study of the Mouth Prior to Taking the Impression, Selecting the Base and Form of Denture, Impressions, Casts, Dies and Counterdies, Swaged Metallic Plates, The Bite, Vulcanized Rubber as a Base for Artificial Dentures, Artificial Crowns, Bridgework, Cast Dentures of Aluminum and Fusible Alloys, Continuous Gum Dentures, Palatal Mechanism. The text is printed in large, clear type on heavy paper, and it is supplemented with a generous index. E.

DISEASES OF CHILDREN. A Practical Treatise on Diagnosis and Treatment. for the Use of Students and Practitioners of Medicine. By Benjamin Knox Rachford, Professor of Diseases of Children, Ohio-Miami Medical College, Department of Medicine of the University of Cincinnati; Pediatrician to the Cincinnati Hospital, Good Samaritan Hospital and Jewish Hospital: Ex-President of the American Pediatric Society and Member of the Association of American Physicians. 8vo, pp. xvii., 783. New York and London: D. Appleton and Co., 1912.

While disease in children has much in common with disease in adults, there are many points of divergence, so that the ordinary work on the practice of medicine is only in part applicable to the practice of pediatrics. These differences are due in part to anatomical and in part to physiological conditions. and they require special exposition By reason of his experience as clinician, pediatrist and teacher Dr. Rachford is exceptionally well equipped for the performance of this task and the result is an eminently practical book on the subject with which it deals. The text is considered in twelve sections, as follows: I. The Child, II. The Newborn, III. Infant Feeding, IV. Diseases of the Digestive System, V. Nutritional Disorders, VI. Infectious Diseases, VII. Diseases of the Respiratory System, VIII. The Heart, IX. Diseases of the Blood and Ductless Glands, X. Diseases of the Urogenital System, XI. Diseases of the Nervous System, XII. Diseases of the Ear, XIII. Diseases of the Skin. These are subdivided into 84 chapters, and there is an index of 45 pages. Typography, paper and binding are excellent. E.

THE PHYSICIAN'S VISITING LIST FOR 1913. P. Blakiston's Son & Co., 1012 Walnut St., Philadelphia. For 25 patients, $1.25; 50 patients, $1.50; perpetual edition, 1300 names, $1.25, or 2600 names, $1.50.

This list now appears for the sixty-second year, is bound in neat flexible leather and provided with pencil. The various tables and records make it a most convenient and serviceable book for the physician's pocket. S.

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Samuel G. Dixon, Harrisburg.

MEETING OF THE BUREAU OF MEDICAL EDUCATION AND LICENSURE OF THE STATE OF PENNSYLVANIA, HARRISBURG, NOVEMBER 1, 1912.

It was moved and seconded that after January 1, 1914, the Bureau of Medical Education and Licensure will require for admission to a medical college, in addition to a standard four-year high school course or its equivalent, not less than one year of college credits in chemistry, biology, physics and a modern language other than the English language or the equivalent thereof, to be determined by the Bureau of Professional Education, and for examination for license to practice medicine in the state a year of service as a hospital intern in an approved hospital or a year of postgraduate instruction approved by the Bureau of Medical Education and Licensure, and that the necessary amendments to our medical act be secured at the coming session of the Legislature by a committee to be appointed by the president of the bureau. Motion was carried.

RECIPROCITY.

The Pennsylvania Bureau of Medical Education and Licensure reciprocates with other states on the following Reciprocity Agreement:—

1. The basis on which reciprocity shall obtain between the State of Pennsylvania and the State of .... shall be a license earned by examination in either state.

2. Reciprocity shall apply only to the holders of diplomas from medical colleges recognized as in good standing by the licensing authorities of the state in which the candidate seeks the right to practice medicine and surgery. Each state shall from time to time publish a list of the colleges recognized by its authorities as in good standing for the purpose of reciprocity.

3. The licensing authorities of either state shall follow the laws and standards of their state, in rating the preliminary education, with which the applicant began the study of medicine.

4. A regular licensed practitioner applying for the benefit of reciprocity must have been in practice at least two years in the state from which he holds his license.

5. The applicant shall not have failed at the medical examinations conducted by the licensing authorities of the state in which he seeks to be licensed under the reciprocity agreement.

6. The applicant may be required to appear in person before some one representing the proper authorities of the state in which he seeks a license to practice medicine and surgery. He must present satisfactory evidence that he is a person of good moral character, and that he is not addicted to the intemperate use of alcohol or narcotic drugs.

7. Credentials as to the personal and professional standing of the applicant may be required from the medical society of the county or state in which he has been practicing, or from any other source.

Pennsylvania is at present in reciprocal relations with the following States: Nevada, Illinois, Ohio, New Jersey and Vermont.

Now that her list of "acceptable colleges" is made up Pennsylvania is ready and willing to enter into reciprocal relations with each and every state in the Union, on the above terms. Every state will have been offered an agreement as above within the next three months and the list added to as fast as they accept.

The list of colleges whose graduates are considered for both Reciprocity and for Examination is as follows:—

Leland Stanford, Jr., Univ., Med. Dept., San Francisco, Cal.
University of California, San Francisco, Cal.
Univ. of Colorado, Sch. of Med., Denver, Colo.
Yale Medical School, New Haven, Conn.
Northwestern Univ., Med. Coll., Chicago, Ill.
Rush Medical College, Chicago, Ill.
Indiana Univ., Sch. of Med., Indianapolis, Ind.
Drake Univ., Sch. of Med., Des Moines, Ia.
State Univ. of Iowa, Sch. of Med., Iowa City, Ia.
Tulane Univ. of Louisiana, Med. Dept., New Orleans, La.
Johns Hopkins Univ., Med. Dept., Baltimore, Md.
Harvard Medical School, Boston, Mass.
Tufts College, Med. Sch., Boston, Mass.
Univ. of Michigan, Dept. of Med. and Surg., Ann Arbor, Mich.
University of Michigan, Homeopathic Coll., Ann Arbor, Mich.
University of Minnesota, Coll. Med. and Surg., Minneapolis, Minn.
Washington Univ. Med. Coll., St. Louis, Mo.

Dartmouth Medical School, Hanover, N. H.
Columbia University, Coll. of Phys. and Surg., New York City.
Cornell Univ., Med. Coll., New York City.
Syracuse Univ., Coll. of Med., New York City.
University and Bellevue Hospital, Med. Coll., New York City.
Starling-Ohio Medical Coll., Columbus, O.
Ohio-Miami Med. Coll. of Univ. of Cincinnati, Cincinnati, O.
Univ. of Pennylvania, Dept. of Med., Philadelphia.
Jefferson Medical College, Philadelphia.
Woman's Med. Coll. of Pennsylvania, Philadelphia.
Hahnemann Med. Coll. and Hosp., Philadelphia.
Medico-Chirurgical Coll. of Philadelphia.
Univ. of Pittsburgh, Med. Dept., Pittsburgh.
Temple Univ., Med. Dept., Philadelphia.
Univ. of Texas, Dept. of Med., Galveston, Texas.
St. Louis Univ., Sch. of Med., St. Louis, Mo.
Univ. of Virginia, Sch. of Med., Charlottesville, Va.
Medical Coll. of Virginia, Richmond, Va.
University Coll. of Med., Richmond, Va.
Univ. of Vermont, Coll. of Med., Burlington, Vt.
Boston Univ., Sch. of Med., Boston, Mass.
Univ. of Nebraska, Coll. of Med., Omaha, Neb.

The graduates of the following colleges of medicine are admitted to the Pennsylvania Examination but not to Reciprocity:—

Univ. of Alabama, Sch. of Med., Mobile, Ala.
George Washington Univ., Dept. of Med., Washington, D. C.
Howard Univ., Sch. of Med., Washington, D. C.
Univ. of Louisville, Med. Dept., Louisville, Ky.
Univ. of Buffalo, Med. Dept., Buffalo, N. Y.
Eclectic Medical College New York City.
College of Phys. and Surg., Los Angeles, Cal.
Hahnemann Medical College of the Pacific, San Francisco, Cal.
Oakland Coll. of Med. and Surg., Oakland, Cal.
Bennett Medical College, Chicago, Ill.
Hahnemann Med. Coll. and Hosp., Chicago, Ill.
Univ. of Kansas,Sch. of Med., Kansas City, Kan.
Baltimore Medical College, Baltimore, Md.
Coll. of Phys. and Surg., Baltimore, Md.
Univ. of Maryland, Sch. of Med., Baltimore, Md.
Detroit College of Medicine, Detroit, Mich.
University Medical College, Kansas City, Mo.
John A. Creighton Med. Coll., Omaha, Neb.
Univ. of Oklahoma, Med. Sch., Oklahoma City.
Baylor University, Coll. of Med., Dallas, Texas.
Eclectic Medical College, Cincinnati, O.
Laval Univ., Med. Dept., Montreal, Canada.
Halifax Medical College, Med. Dept., Delhouise Univ., Halifax, N. S.
College of Phys. and Surg., Chicago, Ill.
Laval University, Med. Dept., Quebec, Canada.
University of Georgia, Med. Dept., Augusta, Ga.
Medical School of Maine, Portland, Maine.
University of Oregon, Med. Dept., Portland, Ore.
Manitoba Medical College, Winnepeg, Canada.
McGill Univ., Med. Faculty, Montreal, Canada.
Queen's Univ., Med. Faculty, Kingston, Canada.
Univ. of Toronto, Med. Fac., Toronto, Canada.
Western Reserve Univ., Med.Dept., Cleveland,O.
Vanderbilt University, Nashville, Tenn.

COUNTY SOCIETY REPORTS.

Reports should be necessarily brief presentations of scientific facts and professional news. To insure publication these should be received within fifteen days from date of meeting, although it is sometimes necessary to hold over some of them for want of room. (See Journal, March, 1910, p. 438.)

CRAWFORD—October, November.

The annual meeting of the Crawford County Medical Society was held in Meadville, October 25. The weather man showed his disapproval in a copious manner so that there were only twenty members present.

Dinner was served at the Hotel Lafayette after which the society adjourned to the Chamber of Commerce rooms. Dr. C. L. Stevens, our genial state secretary, was the guest of the occasion and addressed the society on "Organization." He spoke of the necessity and advantages of organization, referring especially to the conditions and situations that exist in Pennsylvania. He reviewed in a very interesting manner the work of the state society, speaking specifically of the work done in the different departments. It was indeed a privilege to hear one who is so unusually qualified to speak upon this topic.

The regular monthly meeting of the Crawford County Medical Society was held in Meadville, November 6, with ten members present. Dr. S. J. Dickey read a paper on the "Opsonic Index" in which he presented much information concerning the opsonic theory and outlined the technic of ascertaining the opsonic index.

Dr. Clouse of Geneva reported a case of infantile paralysis which was of severe type, the patient dying on the fourth day of the attack. Dr. Snodgrass reported several cases he had seen of the same disease in the last few years, and Drs. Thomas and Hyskell also spoke of their experience. Dr. Brittain reported a brief history of several cases of typhoid fever in which the source of the disease had been traced to the milk supply.

C. C. Laffer, Reporter.

LEHIGH—October.

The October meeting of the Lehigh County Medical Society was held in the auditorium of the Public Library, and was called to order by President Seiberling with twenty members present.

Dr. W. H. Hartzell, delegate to the State Convention gave a very interesting report of the symposiums which he heard. Dr. J. T. Butz reported upon the meeting of the secretaries of the societies in the state, their purpose being to bring before that body matters which should be discussed as to how the respective societies might create a more active interest in their individual work.

Dr. W. F. Herbst presented a very interesting paper on "Tetanus." He pointed out how necessary it was to treat all wounds with the greatest precaution. Open the wound, cauterize thoroughly, and if need be excise the suspected area. Very much relief from the spasms with the attending pain may be gained by the injection of a 25 per cent. solution of magnesium sulphate. He also spoke encouragingly of the intravenous injection of the antiserum, 5000 units injected intravenously equaling in effect 20,000 units injected subcutaneously, the immediate injection of large doses being imperative. Dr. Schlesman, who discussed the paper, spoke very favorably of the intravenous injection and deemed it advisable to give immunizing doses immediately in any suspected cases.

Drs. Fetherolf, Hausman and Weaver were appointed to arrange for a luncheon and smoker to be held after the next meeting.

E. W. Feldhoff, Reporter.

MONTGOMERY—September, October.

The meeting of the Montgomery County Medical Society was held at Charity Hospital, Norristown, September 4. Dr. W. Egbert Robinson of Philadelphia, on "Diseases of the Ductless Glands," spoke at length on the latest experiments and conclusions drawn therefrom. A committee appointed to ascertain the cost of publishing a monthly journal, reported favorably.

At the meeting of September 23, Dr. J. Newton Hunsberger read a paper on "Exophthalmic Goiter." He recommended ice, morphin and digitalis in the acute stages. He advocated tincture of nux vomica as the best remedy after the disease was well established and regarded it as a specific. He gives ascending doses as high as fifty drops three times a day. Surgery is advocated if medicinal treatment fails.

The meeting of the Montgomery County Medical Society was held at Charity Hospital, Norristown, October 2. The society will begin publishing a monthly bulletin in January, 1913. A committee, consisting of Drs. H. F. Pyfer, chairman, J. N. Hunsberger and E. S. Buyers, was appointed to have charge of it. Dr. J. K. Weaver spoke on "Normal and Pathological Pregnancy."

A meeting was held in the Y. M. C. A. Hall, Norristown, October 23, at which Dr. T. H. Weisenburg of Philadelphia lectured on "Nervous Diseases." He showed reels of moving pictures, illustrating dementia præcox, Jackonian epilepsy, cerebellar tumor, paralysis agitans and alcoholic tremor. This method of studying nervous diseases is very gratifying and was much appreciated by the members.

Edgar S. Buyers, Reporter.

PHILADELPHIA—October.

The regular meeting of the Philadelphia County Medical Society was held October 23, at 8:30 P.M., Persident Hammond in the Chair.

A paper on "The Occurrence of Bence-Jones' Protein in Conditions Other than Those of Characteristic Myeloma" by C. G. Guthrie and Dr. Thomas R. Boggs, of Johns Hopkins University, Baltimore, was presented. Although the great majority of cases of multiple myeloma show Bence-Jones' protein urea, carefully studied instances of the disease have been reported without the excretion of this unusual body in the urine. In others it has been absent either early or late in the disease. Clearly established Bence-Jones' proteuria has occurred in diseases other than multiple myeloma, among others, leukemia, injury, and in one case of metastatic carcinoma of the bones. The authors report in detail another such case in which the original tumor was in the breast with widespread metastatic involvement of the skeleton. The condition was diagnosed clinically *intra vitam* and confirmed by the examination of a portion of the femur after death. The Bence-Jones' protein was present in the urine during the period of examination and its identity clearly established by chemical tests.

From this and from a study of the literature the authors conclude that Bence-Jones' proteuria bears neither a constant nor a specific relation to myelomatosis, but may be associated with any one of a variety of disease processes involving the bone marrow.

Dr. Alexander Randall, Philadelphia, in discussing: That the mere calling of attention to this matter in Baltimore brought to notice four cases in a year is suggestive that all cases of obscure bone marrow disease, and with all cases of leukemia should be searched for this body. From Dr. Boggs' deductions I think we can say that with the finding of this body in the urine we have a case of bone marrow disease. The substance has been found in a variety of conditions and in many parts of the body and it is to be regarded as an entity. I should like to ask Dr. Boggs whether the bone marrow has any characteristic appearance. When we realize that the kidneys have to do with all the metabolic processes of the body, and when we have a test that will tell us the function of the kidney, we shall have a wide sphere of activity in working out these processes.

Dr. James M. Anders: It is an interesting fact that, following the discovery of this protein body in the urine by Bence-Jones in 1847, the subject received very scanty attention for twenty-two years. Other observations were reported in 1864 and in 1870. In 1902, Dr. Napoleon Boston and I reported three cases and at that time made a review of the literature. A number of cases were found coming under the head of Dr. Boggs' paper. We also found two cases recorded in literature in which the body was associated with the clinical picture of pernicious anemia. There was a total of thirty-three cases due to all causes. While there are many conditions in which this body may be found in the urine, yet in any case in which we have clinical symptoms referable to multiple myelomata, the presence of this body in the urine should be regarded as a diagnostic feature. On the other hand, we can not assume to-day that the presence of this protein body in the urine, in any case in which there are no symptoms pointing to multiple myelomata, has any diagnostic significance. I believe with Dr. Boggs that we are justified in assuming that protein urine is absolutely diagnostic of disease of the marrow of the bones, and perhaps we can go no further. That there are associated with most of the cases well-marked and progressive phenomena, as claimed by a number of writers, does not seem to have been true of Dr. Boggs' cases or of Dr. Boston's and mine. With Dr. Boggs I believe that routine examinations of the urine would reveal not only the protein body, but other rare morphological elements, more frequently than at the present time are observed.

Dr. G. J. Saxon: The discovery of the Bence-Jones' protein in 1847 and the failure to attach any clinical significance to it until 1889, when Kähler and Huppert reported a case of multiple myeloma from clinical and chemical aspects respectively, is a sad illustration of the degree of enthusiasm which often greets the efforts of the laboratory worker. Moreover, not until 1902 was any systematic effort made to collect the cases exhibiting this protein. This was done by Anders and Boston. Dr. Boggs' advice to suspect the presence of this body in bone conditions should be kept in mind. Two years ago I examined the urine of a patient having carcinomatous metastases from a primary involvement of the mammary gland to the ribs, vertebræ and both femurs, and while I did not find it, I am not discouraged at not having done so. I might mention certain differentiating features of this substance. Unlike heteroproteoses it is soluble in water. Unlike other proteoses it is controvertible into metaproteins, it is coagulated at low temperatures, it yields protoproteose on gastric digestion, it is not acted upon by erepsin, and unlike all soluble proteoses it does not dialyze through parchment paper.

Dr. Boggs, closing: In answer to Dr. Randall, I may say that there is confusion in the description of the characteristic multiple myelomata. In effect, what is found in this type of tumor, which is most frequently associated with this protein body, is a very loosely arranged sarcomatous tissue of stroma cells which contains also more or less evidence of abnormal growth of the elements of the blood, that is the ancestral types, leukocytic cells, and red cells.

The inquiry concerning the normal kidney and the excretion of this body touches one of the most interesting physiological questions, but which is too large to be entered in detail. Why a kidney will permit the passage of this body with all the characteristics of a heavy protein molecule, and hold back the albumin and globulin of the blood is interesting, but can not at present be definitely explained.

The relation of nephritis to this peculiar substance is not settled, but it is very significant that a large proportion of the cases which have come to autopsy have not shown any characteristic nephritis. In our cases we are dealing with something different from the ordinary associations of the disease, that is, a different kind of tumor process, and the urine of our patient had not only this peculiar protein substance, but the serum albumin as well. We did not have opportunity to study the kidneys. I believe our patient would have been shown to have had nephritis. Dr. Anders asked about the blood count. The leukocyte count was 9000, with only a mild grade of anemia.

"Gastric Dyspepsia Due to Intestinal Diseases and Intestinal Indigestion of Gastric Origin" was presented by Dr. Thomas R. Brown, Johns Hopkins University, Baltimore. Dr. Brown discussed the referred symptoms in digestive diseases, that is, symptoms referred to portions of the digestive apparatus other than that involved in the disease process. After calling attention to the anatomical and chemical reasons for such referring of symptoms, he reported a series of cases of achylia gastrica with symptoms entirely intestinal, notably diarrhea; and a series of cases of duodenal ulcer, and of eighteen cases of chronic appendicitis; in each of these groups the symptoms were entirely gastric. He called attention to the great importance of examining the gastric contents after the test meal in chronic intestinal cases, in considering the possibility of duodenal ulcer, and examining gastric contents and stool carefully in cases regarded as gastric dyspepsia, and also in such cases to make a careful examination of the blood, and careful temperature observations to determine whether the basis of the condition is not some inflammatory process in the region of the appendix. The part such processes played in the production of a typical psychoneurasthenic patient was touched upon.

Dr. Alfred Stengel: Just as cases of achylia gastrica give rise often to intestinal symptoms, I have found that gastric ptosis sometimes causes periodical attacks of diarrhea very similar to those which occur in achylia gastrica and which are relieved in some cases by a proper measure of support, by a reduction of irritation which takes place in these cases of marked gastric ptosis. Many cases of gastritis are due not to the condition of the stomach but of the colon and these are benefited by treatment directed to the intestinal tract rather than to the stomach. Cases which have been shown to have no gastric or duodenal ulcer demonstrate the fact that the hunger pain has not the absolute importance attributed to it. The pointing out of this important symptom is a distinct advance in diagnosis which has been given to us by the surgeons, but it is not as diagnostic as Moynihan, and many other surgeons following him, claimed.

Dr. William Egbert Robertson: Achylia gastrica is one of the few, one may almost say, the only gastric disease that gives us striking and positive laboratory findings. The difference between benign achylia and the achylia of gastric carcinoma occurred to me some years ago and, in thinking over sections of carcinoma I have seen, I was struck by the number of polynuclear cells found about the periphery of the growth. This led me to believe that we might find them in the gastric contents and afterwards, after lifting a test meal and washing out the stomach, we found pus cells even where there was no ulceration of the growth. I had an opportunity of proving this some five years ago last month, when I had a woman operated upon. There was a small nonulcerative growth on the lesser curvature near the anterior wall. This was sectioned and there were found in the periphery great numbers of polynuclear leukocytes. Partial gastrectomy was done and the woman is still living.

The paper was further discussed by Drs. Lyon and Daland and closed by Dr. Brown.

"The Diagnosis and Treatment of Obscure Cases of Pyelitis and Hydronephrosis" was presented by Dr. Guy L. Hunner, of Johns Hopkins University. The author referred to his recent paper on the "Treatment of Pyelitis" (*Surg. Gyn. and Obs.*, 1912, Vol. xv., p. 444) for a complete classification of the causes of pyelitis. He then spoke of several groups of pyelitis cases as follows, illustrating most of his assertions by the presentation of case reports: (1) Many cases are overlooked and recover spontaneously. From this fact we may infer that the treatment should usually begin along medical and hygienic lines. (2) Many cases are not diagnosed and patients continue in ill health. Too often the physician fails to examine a catheterized specimen of urine or fails to attribute sufficent importance to the finding of bacteria and leukocytes in such specimens. A marked infection of the kidney pelvis may be present without albuminuria and without pyuria. On the other hand, a marked pyuria may exist for years without apparent injury to the patient's health. (3) Many cases are diagnosed and treated as some other disease, particularly as typhoid fever and malaria. (4) Certain cases of pyelitis are diagnosed and treated as such when the pyelitis is secondary to appendicitis. (5) Pyelitis secondary to ureter stone and particularly cases secondary to ureter stricture are sometimes treated as pyelitis without attention to the cause. (6) Kidney pain may be due to hydronephrosis in cases with normal urine, the hydronephrosis being due to ureter stone or stricture.

The author believes that the literature ascribes a congenital origin for too many of these cases. Gonorrheal periureteritis is probably the cause of a few, and the former presence of a stone undoubtedly accounts for some cases of stricture. The author recalled the familiar belief in a rheumatic diathesis and mentioned the more recent discovery of the relationship between tonsils and cranial sinus infections in the rheumatic conditions. He believes that some cases of stone and many cases of ureter stricture may be traced back to these infections.

After the failure of medical and hygienic measures, the author recommended the semisurgical methods of pelvic lavage for the pyelitis cases and of dilatation of the ureter for most of the ureter stricture cases and for some cases of ureter stone. All of his cases of colon bacillus infection of the kidney pelvis have been cured by lavage with silver nitrate solution. He uses 1-500 solution of silver nitrate without appreciable ill effects. He is convinced that the silver nitrate solutions are not efficient in the cases of *Staphylococcus aureus* infections. For these he is now using a solution of formaldehyd in 1-2000 strength, using the commercial formaldehyd as the standard. He emphasizes the fact that many patients do not break down the hexamethylamin preparations sufficiently to cause antiseptic quantities of formalin in the urine.

For dilating ureter strictures he prepares a renal catheter with varying size bulbs of wax placed about 5 cm. back of the tip of the catheter. These bulbs are eventually made as large as a 5 mm. diameter if the stricture shows a tendency to contract.

Dr. Norman B. Gwyn: Once the suspicion of pyelitis has come to us we should start at once vigorous medical treatment, get the patient to some place where the ureters can be carefully catheterized. While catheterization is being done the other essential feature of diagnosis should be carried out. An x-ray picture of the pelvis of the kidney should be taken while distended. A vaccine can be prepared from the urine and a careful bacteriological culture made, and if we suspect tuberculosis an inoculation can be done.

Dr. Damon Pfeiffer: Medical measures, in the majority of cases, are more or less futile. This is supported by a great number of the cases which Dr. Hunner has cited to-night. I believe that free drainage is the essential cause of the recovery of most of these cases. The question of diagnosis is of supreme importance.

H. C. Carpenter, Reporter.

SOMERSET—October.

The meeting of the Somerset County Medical Society was held at Rockwood, October 15, with about one fourth of the members present. Reports of committees and officers were given at the forenoon session and immediately after dinner officers for the coming year were elected as follows: President, Dr. Bruce Lichty; vice president, Dr. G. C. Berkheimer; treasurer, Dr. W. S. Mountain; financial secretary, Dr. C. F. Hemminger; secretary, Dr. H. C. McKinley.

Dr. Bruce Lichty read a paper on "Placenta Prævia." So long as hemorrhage is not alarming he gives opportunity for all parts to adjust or adapt themselves for the final issue. He would be prepared, however, for the emergency that is almost sure to follow and, if necessary, would break through the placenta and deliver. Most of the members had had one or more cases and in discussion were almost unanimously in accord with the speaker.

Dr. McKinley read a short paper on "Golden Seal." He thinks this one of the good old remedies now almost discarded by the profession; he considers it one of the best stimulants to the mucous membrane; in cases of catarrh of the stomach and bowels he gets the best of results. It may be applied locally to any ulcerated part with good results and should be used more than it is. H. C. McKinley, Reporter.

WARREN—September.

The meeting of the Warren County Medical Society was held September 17, at Sheffield, with Drs. Pryor and Mervine as hosts. Thirteen members were present; and Drs. Dunn and Finlayson as guests. The application for membership of Dr. Darling, North Warren, was presented. Dr. Dunn of Tionesta was elected a member. The question of membership of Dr. Willard was referred to a committee of Drs. Hamilton and Durham. Subscription to the *Congress of Hygiene* was authorized.

Dr. Haines reported an enterolith found in the appendix, and showed a specimen the size of a plum stone. The origin of concretions in various parts of the body was discussed by most of the members. An abstract of an article on "Epidemic Poliomyelitis" was read by the acting secretary and Drs. Smith and Frantz reported cases simulating the cerebral type without definite motor signs. Dr. Ball reported a case of convulsions, of sudden origin, in an adult, followed by acute dementia for which no cause could be found, one doctor claiming an excess of acetone in the urine as the origin.

The value of hexamethylamin in the treatment of meningitis and for the sterilization of nasal and urinary secretions was dwelt on by Dr. Keller.

The members then adjourned to the Lee House where an excellent Dutch luncheon was served and each member received a souvenir stein.

M. V. Ball, Acting Secretary.

WAYNE—October.

The regular October meeting of the Wayne County Medical Society was held at Hotel Kohlman, Hawley, October 17, with a fair attendance. Dr. George Huber of Scranton read a paper on "Tonsils and Tonsil Operations" which was very interesting and of much good to the general practitioner. Dinner was served at the hotel. F. A. Lobb, Reporter.

YORK—October, November.

The York County Medical Society met in the Colonial Hotel, York, October 3, at one o'clock. President Bittinger presiding and about thirty members present. The treasurer's report showed a balance of $288.82. The trustees reported the removal of the medical library, consisting of several thousand volumes, to another section of the courthouse, and recommended permanent quarters for the same.

Dr. J. H. Howard read a paper on "Pernicious Vomiting of Pregnancy," in which the literature was carefully reviewed. The most acceptable etiologic classification was the nervous, reflex and toxic, although the vast majority of cases of this comparatively rare affection are secondary to toxemia. Many cases are, however, due to some abnormal condition of the parturient tract, discovery and removal of which ofttimes relieves the reflex vomiting. It seems to be produced at times by mere nervous influences. Treatment is dependent upon the cause but, in the majority of cases, evacuation of the uterus must be considered.

The society accepted the invitation of the Dr. H. M. Alexander and Company to visit the Biologic Laboratories. The date will be arranged by the next appointed committee on scientific business.

Assessment to state society, amounting to $188, was ordered paid.

The York County Medical Society met in regular session in the Colonial Hotel, November 7, Dr. Bittinger presiding and fifty members present.

Dr. Alfred Stengel, of Philadelphia, conducted a medical clinic, presenting the following cases: (1) Duodenal ulcer; (2) aneurysm of descending arch of the aorta; (3) aneurysm of ascending arch of the aorta; (4) interlobular empyema; (5) aortic regurgitation; (6) visceroptosis; (7) arteriosclerosis; (8) marked thoracic deformity, following neglected pleural effusion; (9) cyclic vomiting; and (10) pulmonary tuberculosis. In each case, Dr. Stengel made a routine physical examination, and brought out the fine points in differential diagnosis in a manner which well typified his skill. Diagnosis of duodenal ulcer depends very largely upon the history elicited from the patient. Many patients complain of a "chalky" or "metallic" taste about the teeth. As a practical scheme, vibration by means of the palpating finger over the pyloric area stimulates gastric peristalsis; this also can be aided by a dose of Seidlitz powder, inflation or bismuth administration and *x*-ray. "Hunger pain" does not always indicate duodenal ulcer. In one half the cases there may be normal acidity or even subacidity (one third cases). Occult blood in the stools occurs early in the condition and may not be present later.

He referred to aneurysm of the arch of the aorta as "aneurysm of symptoms" and to aneurysm of the descending thoracic aorta as "aneurysm of physical signs." The latter is ofttimes, for this reason, overlooked, and is frequently diagnosed as pleurisy, spinal disease, etc. A diagnostic sign frequently present is the so-called "collar of flesh," a ruffle of flesh around the collar area (lower neck). Lues is the underlying cause in the majority of cases of this disease. There is very little to do in the way of treatment in thoracic aneurysm. Dr. Stengel has seen only three or four cases get perfectly well. Prophylaxis, even during or before the appearance of a definite aortitis, is the best treatment. The use of mercurials, by inunction or hypodermatically, is more valuable in cardiovascular diseases due to lues than is either salvarsan or neosalvarsan. Wiring is not to be too highly recommended.

Dr. Stengel left behind him considerable information in reference to diagnosis and treatment of all the diseases above referred to, and was given a rising vote of thanks. By a unanimous vote, he was elected an honorary member of the society.

Dr. O. A. Delle, resident physician in York

Hospital, was proposed for membership.

Drs. L. M. Hartman, E. W. Stick and E. S. Mann comprise the Committee on Scientific Business for the year 1913.

JULIUS H. COMROE, Reporter.

NECROLOGY.

In Memoriam—James Addison Wick, M. D.

(The following memorial was adopted by the Clarion County Medical Society, April 23, 1912.)

The entire membership of the Clarion County Medical Society, collectively and individually, have suffered a serious loss in the removal by death of their professional brother, friend and co-worker in the cause of humanity, Dr. James Addison Wick, aged sixty-five years. His death occurred at his home in New Bethlehem, December 24, 1911. He was the son of Dr. Henry and Mary Foster Wick, born March 22, 1864, in Clarion County, where he grew to manhood, receiving his preliminary education in the neighboring schools, and his medical education and degree in Jefferson Medical College, from which he was graduated in the class of 1870. He followed his profession with more than ordinary success for forty years. Not only in the medical ranks was he eminently successful but also in the business world, where he held many positions of trust. For over fifty years he was an honored and consistent member of the Presbyterian Church.

Dr. Wick was married to Miss Blanch Abrams, who with three children survive him. None knew him but to love him for his kindly, affable ways, as a friend and neighbor, and for his strong personality, upright Christian character and sterling integrity as a professional gentleman. He was public spirited and always found on the right side of every moral question. As a member of the state and county medical societies he was ever interested in the great questions considered by those bodies at their meetings, and we deeply mourn the loss of his fellowship and coöperation. His character was such as to be known and read of all men; there was nothing secret or underhand in his makeup; a man of fine social qualities, one who could adapt himself as the necessity demanded, singularly free from any animosity towards his professional brethren, and never intentionally giving offense to any. Therefore

Resolved, That we, the members of the Clarion County Medical Society, extend to his bereaved wife and family, our heartfelt sympathy in this their great loss, commending them to the Great Friend of all, Who promises to send a comforter to the bereaved and lonely ones of earth.

Resolved, That we hereby instruct our secretary to give a page in the record book of this society to these memorial resolutions and also furnish a copy to the family of our deceased professional brother, and send a copy for publication to the JOURNAL.

W. M. CLOVER.
P. W. SHUMAKER.
R. A. WALKER.

In Memoriam—Thomas J. Birch M. D.

(The following resolutions were adopted at the meeting of the Schuylkill County Medical Society, September 3, 1912.)

Dr. Thomas J. Birch was born in Morristown, Ohio, September 20, 1838. He was graduated from the medical department of the University of Pennsylvania in 1877; succeeded to the practice of his father-in-law, the late Dr. G. W. Brown, of Port Carbon, the place in which he died on June 24, 1912. He served as president of the society in the year 1882. Of late years his health had been bad and he gradually withdrew from practice. He had traveled extensively, not only over America but abroad.

Whereas, In the death of Dr. Thomas J. Birch, medical fraternity loses one of its most valued members, especially the members of the Schuylkill County Medical Society, with whom the deceased was so long associated, are saddened and grieved by his demise. His kindly nature, geniality, courteous manner and high moral character were an inspiration to us all. Therefore, be it

Resolved, That we hereby express our appreciation of his faithfulness and efficiency as a physician and the honorable and professional manner in which he always performed the duties of his high calling. We also desire to record our appreciation of his character as a man, a citizen and a friend.

Resolved, That we tender to his wife our sincerest sympathy in her bereavement.

Resolved, That these resolutions be spread upon the minutes of the society, that a copy be sent to Mrs. Birch, that a copy be printed in the society *Bulletin* and in the PENNSYLVANIA MEDICAL JOURNAL.

A. P. SELIGMAN.
J. L. WARNE.
W. T. WILLIAMS.

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ORIGINAL ARTICLES.

GLAUCOMA, PARTICULARLY IN REGARD TO THE SURGICAL TREATMENT.

BY JOHN E. WEEKS, M.D.,
New York.

(Presented (by invitation) in the Section on Eye, Ear, Nose and Throat Diseases of the Medical Society of the State of Pennsylvania, Scranton Session, September 25, 1912.)

The subject on which I am to speak is one which ranks second only to cataract in surgical ophthalmology. Its effect upon the vision, its manifold phases and the difficulties encountered in its control make it worthy of most careful study by the general medical man, as well as by the ophthalmologist. We may define glaucoma as a plus condition of the intraocular tension due to a disturbance of the normal balance between the secretion of fluids into, and the escape of fluids from the eyeball. The influences or conditions that determine the development of primary or idiopathic glaucoma are so complicated in character that the subject admits of diversified views by different, most astute observers. Thus the theory of obstruction at the filtration angle, so carefully studied and described by Priestly-Smith, the influence of the sclerosing processes incident to senility on the perivascular spaces of and the exit of the venæ verticosæ, so strongly advocated by Stellwag, and the influence of heredity as predisposing causes, also the influence of vasomotor disturbances in the production of "congestive" glaucoma as direct or exciting causes, all admit of a varying degree of value in the opinion of various observers.

The increase in the size of the ciliary processes, a variety of vericosity of the vessels, differing widely in degree in different individuals, as pointed out by Hess,[1] can not be gainsaid. In fact it conforms with our knowledge of the conduct of vascular changes taking place in other parts of the body. It is doubtful whether increased blood pressure, as it presents itself in arterial sclerosis, has any influence in the production of glaucoma. In a large number of observations of increased blood pressure due to this cause made by the writer in routine office practice no tendency to increased intraocular tension was observed. This is in accord with the observation of R. Krämer[2] although somewhat at variance with the views of Loquieze[3] and some others. However, in some cases of increased pressure due to exertion, in the presence of aortic regurgitation, increased intraocular tension was noted. Variation in the tension of the eyeball from normal to plus is a peculiarity of certain forms of glaucoma, while in still other forms great increase in tension appears to come on without preliminary onsets. The attacks in subacute chronic glaucoma occur most frequently in the morning. They may occur in the latter part of the day following a heavy dinner, excitement of any kind, as playing cards, attending theaters, anger, great joy, etc. A condition of constipation favors attacks, also increased heart action in the presence of aortic insufficiency. Consideration of these facts make it evident that acute attacks are due to increased secretions into the eyeball consequent on vasomotor disturbances.

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[1] *Arch. f. Augenheilk.*, Vol. LXVII., p. 341.
[2] Graefes Arch., Vol. LXXIII., p. 349.
[3] *Klin. Monatsbl. f. Augenheilk.*, Oct., 1910, p. 375.

Diagnosis. Increase in tension is of course the prime factor in diagnosis, but there are cases of simple glaucoma in which. with marked cupping of the optic disk, the tension so far as can be ascertained is not above normal. Fuchs[4] mentions two cases which he has observed. In such cases there is always the possibility that at some time during the twenty-four hours the tension may be above normal. If this possibility is eliminated the supposition of a power of resistance lower than the normal in some individuals must be entertained. My own observations lead me to believe that this is the condition in some cases. The other ordinary symptoms, prodromal and after glaucoma is established, need not be enumerated here. The change in the size of the blind spot as indicated by Bjerrum is of scientific interest, but of little practical value.

Tonometry by instrumental means was not satisfactory because of the difficulty in application and the lack of uniformity in results, until the excellent instrument of Schiötz appeared. Tonometry by the use of this instrument has imparted much of interest to the study of ocular tension. However, from a practical standpoint it has added little to the indications for treatment. In fact the effect that increased tension is having on an eye is better determined by the condition of the vision and by the changes in the visual fields for form and color than by a tonometer.

The treatment is of course medicinal and operative.

Medicinal treatment: This must be constitutional as well as local. The constitutional treatment consists in a modification of the diet and the administration of remedies, first, to correct a "habit" of constipation, if it exists and, second, to reduce the blood pressure if it is abnormally high. For the first the remedies used as laxatives should be saline as a rule. For the second, the remedies generally in use may be employed.

For local use there is not much to add to the list of remedies so well known; namely, pilocarpin and eserin. They should be employed in strength sufficient to produce the desired result; namely, to keep the pupil very small. The citrate of sodium has recently been recommended, it is used in solution injected subconjunctivally. It must not be forgotten that in certain cases of glaucoma, tension becomes normal and the use of miotics may be discontinued almost, if not entirely, after some months. This may occur even after slight contraction of the visual field has taken place. Dionin in strength sufficient to produce its local manifestation, namely, more or less conjunctival edema, acts ordinarily as an analgesic and is of value in cases of severe pain accompanying an acute attack of glaucoma and in some cases of absolute glaucoma with pain, instillations being made once or twice in twenty-four hours as indicated. The pain does not appear to be much influenced until thirty to forty-five minutes have elapsed when it subsides and much relief is experienced. The analgesic effect ordinarily lasts five or six hours. In the majority of cases the tension of the eye is slightly diminished, but in many cases the influence on the tension is nil. In a few cases the tension has appeared to be slightly raised. Massage applied through the upper lid once or twice daily is beneficial in some cases of glaucoma. It is advantageously applied by placing the tips of the index fingers on the upper lid over the eyeball and palpating the globe gently. The pressure should not be severe enough to greatly disturb the contents of the eyeball because of danger of bringing on cataract. The massage should be continued about two minutes (until the tension of the eyeball has been palpably reduced) and should be made once or twice daily as the case demands. Miotics should be used in conjunction.

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[4] Ophth. Gesell in Wien., 1910.

Operative treatment: If the patient can be kept under observation, operative procedure should be instituted only when diminution in the field of vision for form or color or in the acuity of vision, or both take place, or an acute attack of glaucoma occurs, or there is a distressing element of pain, in spite of the nonoperative treatment. The presence of increased tension does not necessarily indicate operative procedure. In some cases a tension of thirty to thirty-two millimeters of mercury is carried without apparent injury to the eyeball or to the vision. In the writer's opinion operative procedure is indicated in cases of glaucoma of whatever nature: (1) When the patient can not be kept under observation; (2) when the field of vision for form or color diminishes or visual acuity diminishes in spite of nonsurgical treatment as indicated by repeated examinations; (3) when an acute attack occurs in spite of nonsurgical treatment; (4) when the element of pain is distressing in spite of nonsurgical treatment.

The direct results obtained by surgical procedures now employed for the relief of tension in glaucoma may be classified as follows: (1) To remove a portion of the vitreous body or to permit the aqueous to escape; (2) to form a premanent communication between the aqueous chamber and the perichoroidal lymph space; (3) to form a permanent avenue for filtration from the anterior chamber to the exterior of the eyeball, (*a*) by the formation of a cystoid scar with incarceration of the iris or other tissue, (*b*) by the formation of a filtering cicatrix without incarceration; (4) to so influence the secretion into the eye that an excess will not occur; (5) to relieve pain by cutting off the sensory nerve supply to the eyeball.

Under the first division may be placed: (1) Posterior sclerotomy, (2) trephining back of the ciliary zone, (3) sclerociliotomy (Hancock), (4) paracentesis of the anterior chamber, (5) anterior sclerotomy (de Wecker). Under the second: (1) Cyclodialysis (Heine), (2) sclerociliotomy, (3) De Vincentiis' operation, (4) sclerochoriotomy (Querenghi). Under the third: (1) Fistulous cystoid cicatrix, (2) anterior sclerotomy, (3) sclerectomy (Lagrange), (4) filtering cicatrix, (5) trephining (Holth, Major Elliott, Verhoeff, Fergus). To the fourth belong: (1) Section of the cervical sympathetic (Abadie), (2) resection of the superior cervical ganglion of the sympathetic (Jonnesco). To the fifth: (1) Stretching of the supratrochlear nerve (Bailey), (2) laceration of the infratrochlear nerve (Badal), (3) optic ciliary neurectomy.

Posterior Sclerotomy (paracentesis of the posterior chamber). Ordinarily posterior sclerotomy is performed in the lower outer quadrant of the sclera, anterior to the equator of the globe, and sufficiently far back to avoid wounding the ciliary body. The incision should be meridional and should stop at least 6 mm. from the corneal margin.

Trephining the Sclera (posterior to the ciliary zone). In 1876 Argyll-Robertson[5] described what he termed "a new operation for glaucoma." With a hand trephine he drilled a hole 2 mm. in diameter through the sclera above the junction of the ciliary processes with the choroid. Argyll-Robertson reported four operations. In the last two the conjunctiva was raised before trephining and replaced afterward, covering the defect. He believed that in the operation described ophthalmic surgeons possessed "an efficient means of reducing intraocular tension." Argyll-Robertson advocated the employment of trephining only in cases in which iridectomy had failed or could not be performed. The operation has since been advocated by Dr. Blanco[6] of Madrid and by Dr. Konrad Frölich.[7] Dr. Frölich used the Von Hippel trephine.

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[5] R. L. O. Hospital Reports, Vol. VIII., May, 1876.

Sclerociliotomy. Hancock[8] under the supposition that because of atrophy or spasm of the ciliary body the circulation through the vessels of the choroid was impeded and thus caused increased intraocular tension, incised the sclera and divided the ciliary body. This operation, as performed by Hancock for the cure of glaucoma, 1860, consists in plunging a Beer's knife into the globe at the lower sclerocorneal junction, directing the point backward and a little downward (the cutting edge downward), making a meridional section that opens the anterior and posterior chambers, divides the ciliary body and enters the vitreous chamber. The incision is made 4 to 5 mm. long and is in the sclera. As the knife is withdrawn it is turned slightly, permitting escape of the aqueous and some vitreous. The operation has not met with general favor, but Pollak[9] reports having operated in this manner "between sixty and seventy times without a single failure."

Abadie[10] has modified Hancock's operation, making the incision subconjunctival.

Walker[11] of Liverpool divided the ciliary zone in the following manner: He passed a narrow Graefe knife through the cornea near the sclerocorneal margin, the cutting edge being directed away from the axis of the globe. The point of the knife was thrust through the base of the iris and through the zonula, avoiding the lens and entering the eye almost to the ora serata. On withdrawing the knife, the surgeon cut through the choroid and ciliary body down to the sclera, enlarging the corneal wound as little as possible.

Sclerochoriotomy. Querenghi,[12] in an operation that he calls sclerochoriotomy, modifies the operation of Walker by entering the globe through the sclera. His operation is advocated on the theory that glaucoma depends on a want of free communication between the perichoroidal space and the anterior chamber. The writer has had no personal experience with any of the operations that include division of the ciliary body.

Paracentesis. Paracentesis of the cornea for the relief of intraocular tension is of temporary value in cases in which immediate iridectomy, or other operation, is not convenient or desirable; as in some cases of hemorrhagic glaucoma in which the anterior chamber is not abolished; in some cases of plastic iritis with increase of tension due to plugging of the spaces of Fontana by plastic exudation. The operation is of such antiquity and so well known that it is unnecessary to allude further to it here.

Sclerotomy. In 1867, de Wecker, considering iridectomy harmful, preferred anterior sclerotomy because he believed that it facilitated the escape of aqueous and consequently secured permanent reduction of intraocular tension. He insisted that the scleral wound must be free of iris. Querenghi performs sclerotomy. He uses a keratome, entering the anterior chamber well back in the iris angle. An incision of 6 to 7 mm. is made. He claims that it is easy to prevent prolapse of the iris if the knife is withdrawn slowly and the iris is pressed gently during its withdrawal.

Cyclodialysis (Heine). Operation: Stage 1. The sclera is exposed 5 to 8 mm. from the corneal margin by dissecting up the conjunctiva. Stage 2. An equatorial incision 2 mm. long is made obliquely forward through the sclera, 5 to 8 mm. back of the corneal margin. The incision passes through the sclera only. Stage 3. The end of the spatula is then passed through the wound, kept in contact with the sclera, and passed forward through the annular ligament and ligamentum pectinatum until it appears in the anterior chamber. By lateral movements the ligament is ruptured to the desired extent, separating ciliary body and iris from the sclera. Stage 4. (*a*) The spatula is withdrawn without permitting much escape of aqueous, in which case the tension is not reduced at once: (*b*) the spatula is rotated in withdrawal and aqueous escapes, reducing the tension.

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[6] *Klin. Monatsbl. f. Augenheilk.*, XLI., 2, p. 150.
[7] *Klin. Monatsbl. f. Augenheilk.*, May, 1904.
[8] Moorfield's Report, Vol. III., p. 13, 1860.
[9] *Am. Jour. Ophthal.*, March, 1899.
[10] *Ophthalmoscope,* July, 1910, p. 501.
[11] Essays in Ophthalmology.

[12] *Annal. d'Oculist,* June, 1901.

By this operation the perichoroidal space and the anterior chamber are made to communicate freely. Some irritation of the eye may follow and hemorrhage into the anterior chamber may occur. The first rapidly subsides and the second is soon absorbed.

Results: The results of this operation as studied by G. Weinicke[13] in the analysis of sixty-one patients on whom cyclodialysis had been performed seventy-six times, are as follows: The cases were acute glaucoma, nine; hemorrhagic glaucoma, four; subacute, chronic or absolute glaucoma, thirty-one; simple glaucoma, nine; traumatic glaucoma, two; buphthalmos, seven. Many of the cases were reported after a lapse of years. In 57 per cent. there was improvement as long as the patients were under observation; in 25 per cent., temporary improvement; in 18 per cent., no improvement. Of the 18 per cent., nine were improved by subsequent cyclodialysis.

Recently Dr. Fergus of Glasgow, Scotland, has devised an operation in which cyclodialysis is a prominent feature. Technic of the operation: A conjunctival flap is dissected up and laid over the cornea. With a medium size Bowman's trephine a disk of sclera is removed from just posterior to the annular ligament of the ciliary body. At the first operations the conjunctival flap was restored at this stage and the operation was at an end. In all subsequent operations after the disk of sclera was removed, Fergus passed an iris repositor in at the scleral opening, keeping the point close to the inner surface of the sclera and cornea until it appeared in the anterior chamber. The repositor was then removed and the conjunctival flap was replaced and stitched into position. Dr. Fergus does not believe that there is any danger of the development of sympathetic inflammation following the operation.

It has been held by some ophthalmic surgeons that relief of tension may be obtained by a free communication between the anterior and vitreous chambers. For the purpose of establishing such communication Hern[14] advocated the following operation to be employed when iridectomy has not relieved the tension. Instruments: A narrow, double-edged knife about 1 mm. broad, a speculum and fixation forceps. Operation: The knife is passed through the cornea 2 mm. from the corneal margin, the plane of the blade being parallel with the horizontal plane of the eyeball. The knife passes through the coloboma, through the suspensory ligament above the lens and into the vitreous. By lateral movements the suspensory ligament is divided to the largest possible extent. The opening through the zonula thus establishes free communication between the vitreous and anterior chambers.

De Vincentiis[15] has described an operation under the name "incision of the iris angle." He uses a special sickle-shaped needle, so constructed that the aqueous will not escape during the operation. Operation: The sclera is pierced 1.5 mm. from the corneal margin, the anterior chamber entered, and the point of the needle carried across the anterior chamber to the opposite side, parallel to the plane of the iris. On withdrawing the needle, the tissues at the iris angle (ligamentum pectinatum) are cut and Schlemm's canal is opened. The incision is made as long as possible. Tailer[16] reports sixty-two operations after de Vincentiis, for glaucoma of various forms. The results were satisfactory. Sgrosso reports fifteen cases, eleven glaucoma simplex, tension and vision improved. There was a relapse one month later.

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[13] *Klin. Monatsbl. f. Augenheilk.*, Nov., Dec., 1908.

[14] Ophthal. Congress, Utrecht, 1899.

[15] *Annali di Ottal.*, Vol. I., p. 540, 1894.

OPERATIONS CONTEMPLATING THE FORMATION OF A CYSTOID CICATRIX, OR INCARCERATION OF IRIS OR CONJUNCTIVA.

Major Herbert[17] has devised a number of operations, all for the purpose of obtaining a cystoid filtering cicatrix. He made a large sclerotomy with a large conjunctival flap and produced a large prolapse of the iris. The wound healed, the prolapse being covered by the conjunctiva. As the iris tissue resisted the passage of fluids, he finally excised a small piece of iris, establishing a fistula at once. Herbert reported the results of 130 operations. In 13 the iris was left intact; in 5 iridotomy, and in the rest iridectomy was performed. The relief of tension was certain and permanent, although in some cases this was not established until massage and miotics had been used for periods of two to three months. He held that the risk of late infection was small and that early serious complications were less frequent than in similar cases operated upon by a broad iridectomy. Herbert claims that this method is better able to provide a permeable scar than any other. He admits that there is some risk of infection and sympathetic ophthalmia may result, but that both are so infrequent that they may be disregarded.

In another series Herbert endeavored to obtain a filtering cicatrix by tucking a strip of conjunctiva into a scleral incision. A large conjunctival flap was made above the scleral incision and a fold of the flap was pushed into the wound, the apex of the flap lying on the sclera above the wound. When the anterior chamber reformed, a bulging of the conjunctiva above the wound took place and a more or less permanent fistulous cicatrix resulted. On account of the fact that the fold of conjunctiva did not always remain in place, Herbert later secured the inclusion of the conjunctiva by passing a suture through the middle of the conjunctival flap after tying the end of the two threads of the suture into a knot. The needle was then passed through the uppermost edge of the cornea and the threads were knotted on the surface of the cornea. The suture was removed at the end of twenty-four hours.

Denig[18] of New York describes an operation in which he draws a strip of conjunctiva 3 mm. wide and 2 cm. long, connected to the globe by a pedicle at the limbus, through the incision made in the sclera for the iridectomy and a parallel incision through the cornea 2 mm. from the limbus 3 mm. to 4 mm. long. After the iridectomy is made a strip of conjunctiva is drawn through and doubled on itself, so that the epithelial surfaces are in apposition. The flap is left attached at the limbus. The opening in the conjunctiva and the ends of the flap are covered by subsequently undermining and sliding the flaps. The operations are too few to warrant conclusions regarding results.

Holth[19] makes an incision either with a linear knife or with a keratome. With the former the incision is made 6 to 8 mm. long at the limbus with the formation of a conjunctival flap. With the latter the conjunctiva is pierced 8 mm. from the corneal margin in order to supply a conjunctival flap. The point of the keratome is advanced subconjunctivally to 1mm.from the corneal margin, where it is made to pierce the sclera, and the incision 6 to 8 mm. long is made in this plane. An iridotomy or iridectomy is done, the iris drawn into the angle of the scleral wound and left incarcerated (iridencleisis) or slightly prolapsing. Holth reported a series of 41 operations and in a later paper[20] a series of 87 operations. In the total number of operations he obtained 83.3 per cent. of filtering cicatrices. He had no bad results. Some of the cases were satisfactory when examined two months to two years after the operations.

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[16] Lav. della clin. ocul. d. R. U. di Nap., IV., p. 197.

[17] Trans. Ophthal. Soc., Vol. XXIII., 1903.

[18] *Ophthalmology*, July, 1910.

[19] *Annal. d'Oculist*, March, 1907.

Maher[21] endeavors to produce a cystoid scar by opening the eye as for the usual iridectomy, dragging a portion of the iris from its ciliary attachment, leaving the loop thus produced prolapsed for a week and then excising it with the scissors close to its scleral attachment at each angle of the wound. Sometimes the iris was cut at one angle of the wound at the time of the operation and left hanging at the other angle. Plastic iritis followed in one case. Maher admits the liability of infection, but does not consider it of much importance.

OPERATIONS FOR THE PURPOSE OF PRODUCING A FILTERING CICATRIX.

Sclerectomy in glaucoma is performed for the purpose of obtaining a filtering cicatrix. Under this term may be grouped all the forms of operations which aim to remove a portion of the sclera by means other than by the trephine. Sclerectomy may be performed (*a*) without iridectomy, (*b*) with peripheral iridectomy, (*c*) with ordinary iridectomy.

Under the heading "Sclerectomy" may be considered the operations of Lagrange, Holth, Dor and Jacqueau.

The Lagrange operation is so well known I need not describe it. Excision of sclera after this method, is performed by Lagrange[22] without iridectomy (1) in cases of glaucoma with intermittent hypertension or with very slight hypertension; (2) in those cases in which iridectomy is recognized as dangerous; as in glaucoma in which the visual field borders on the fixation point; (3) in hemorrhagic glaucoma in which operation is deemed advisable; (4) in cases of glaucoma coincident with adhesions of the iris, such as will necessarily prevent prolapse of that membrane.

Lagrange writes, "As a rule, eyes constantly below T + 1 will merit a simple sclerectomy alone."

Sclerectomy with the excision of a piece of iris at the periphery (peripheral iridectomy) is done by Lagrange in cases in which the iris bulges into the wound slightly and can not be restored. The iris is seized near its insertion, drawn out slightly, and a small piece excised, buttonholing the iris.

Sclerectomy with iridectomy is performed by Lagrange in all cases in which the tension is high. Lagrange writes, "On the whole, iridectomy goes for little, perhaps nothing, in the successful result, but in the case of glaucoma with rather much hypertension iridectomy should be performed for two reasons; first, that it is no trouble; and, secondly, that it takes away, even better than does the button-hole of Holth, the fear of prolapse after sclerectomy in a tense eye."

Cases reported by Lagrange: (1) Simple perforating sclerectomy, 16 cases; 15 good, 1 failure. (2) Sclerectomy with peripheral iridectomy, 4 cases; 3 good, 1 failure. (3) Sclerectomy with iridectomy, 47 cases; 46 good, 1 failure.

The operation of Brooksbank Jones[23] is a modification of the Lagrange operation in which he prefers to use the Vacher punch-forceps. Holth[20] described a modification of Lagrange's operation in which he uses the punch-forceps of Vacher, which he has modified.

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[20] *Annal. d'Oculist*, July, 1909.
[21] *Ophthal. Rev.*, 1909, p. 185.
[22] *Arch. d'Ophthal.*, Sept., 1910.
[23] Trans. Ophthal. Soc., Vol. v., fasc. 1, 1910.

Since June, 1908, Holth has performed his operation thirty times. In his first ten cases he made his scleral incision 0.5 mm. from the limbus, freed the conjunctiva, and pulled it down with the hook, then depressed the corneal edge of the incision with the lower blade of the punch-forceps, which he slipped backward so that on closing the instrument he excised a piece of the posterior lip. The piece of sclera excised by this means was larger than that removed from the anterior lip, but not in so favorable a position. In all these cases fistulous cicatrices and normal tension were obtained, but in two instances the good results were not maintained. Holth, however, suggests that he may return to this method, as he thinks that these failures may have been owing to the defects in the punch-forceps, which had not been perfected at the time he performed the operation. "In the remaining twenty cases the sclerectomy was performed on the anterior lip, and always produced a fistulous cicatrix when the piece of sclera removed was sufficiently large (*i. e.* 5 mm. broad)."

Holth gives a microphotograph of a section of an eye obtained from a patient who died of pulmonary embolism following a fracture of the femur six weeks after the operation on the eye in which, in spite of the fact that the scleral flap measured only 1 mm., there was a fistualization with normal tension and marked improvement of visual acuity and field.

Holth contends that the following three conditions must be obtained before an operation for the cure of glaucoma by the production of fistulous cicatrix can be considered to have fulfilled the purpose for which it was devised. (1) There must be conjunctival edema over and around the scleral wound, showing the presence of a subconjunctival fistula. (2) The tension must be constantly normal, as shown by the tonometer. (3) For two years after the operation the visual acuity and fields (which often improve to a marked extent) must not become worse than they were before.

Herbert's wedge-isolation operation and his scleral tongue operation need only be mentioned here. They have apparently not stood the test of time.

In 1872 de Wecker[24] applied trephining in the treatment of glaucoma in which a satisfactory iridectomy could not be made and a simple sclerotomy would not suffice. The object was to relieve the patient of pain and to obviate the necessity of enucleating the eyeball. Operation: With a trephine constructed on the principle of Heurteloup's artificial leech a portion of the sclera, 1 mm. to 1½ mm. in diameter, was removed at the edge of the cornea in such a way as not to injure the lens or to approach too near to the ciliary body. A large filtering cicatrix was established.

The operation of Elliott is a duplicate of that of de Wecker, except that de Wecker did not use the trephine subconjunctivally. Operation: Incision through the conjunctiva roughly concentric with the corneal margin, ending on either side about 4 mm. below the highest point of the cornea and the same distance from the inner and outer margins of the limbus. Dissect the flap well down to the limbic attachment until the dark underlying corneal margin can be seen through the flap at the point for applying the trephine. Care must be used not to perforate the conjunctival flap. The conjunctival flap should not be used for steadying the globe, as it is apt to be mutilated. Before applying the trephine, the area selected should be carefully cleared of connective tissue, tags, etc. The trephine should be applied as close to the limbus as possible. The object is to enter the anterior chamber without injury to the annular ligament or ciliary body, a simple trephining to drain the anterior chamber. The trephine should be applied squarely and the cutting should terminate as soon as the sclera is cut through. If the disk of sclera is not fully detached by the trephine, the detachment can be completed by means of the iris scissors. The trephine should not be more than 1.5 mm. to 2 mm. in diameter.

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[24] *Annal. d'Oculist.* Oct., 1872.

Iris: If the iris presents, it may be incised meridionally. This will liberate the aqueous and the iris may return to its position spontaneously. If it does not, a portion is excised. The iris should not become impacted in the wound. The anterior chamber may be irrigated with normal saline solution if the wound is obstructed by tags of iris or clots of blood.

Closure of the wound: Sutures are not necessary as a rule. If there is a tendency to gape, sutures may be used.

After use of drops: If the pupil is irregular, eserin sulphate one per cent. solution may be instilled for the first two days. Major Elliott puts in a drop of a solution of atropin on the third day. Elliott[25] reported 128 operations on 89 patients. Of these operations 122 were primary and 6 secondary. Loss of vitreous, 6 cases; failure to enter the anterior chamber, 5 cases. The form of glaucoma was given as primary noncongestive glaucoma, 57 cases; primary congestive glaucoma, 40 cases; acute glaucoma, 25 cases.

Results: Return of tension occurs in a low percentage of the cases (Elliott mentions two cases). In many cases the tension remains normal; in some subnormal. The operation sufficed to relieve pain in all of the six cases of absolute glaucoma with painful eyeballs. Vision remains the same or is improved in the greater number of cases operated upon. In a small percentage of the cases the vision diminishes after the operation in spite of the fact that the tension is lowered. A cystic filtering scar is the rule, the cyst increasing in size on massage.

A modification of the operation of trephining the sclera has been introduced by Verhoeff,[26] who has devised a special instrument for the operation which he terms a "sclerostome." The instrument is a combination of a punch and a trephine. The diameter of the trephine is 1.4 mm. It cuts a hole in the sclera about 1 mm. in diameter.

OPERATIONS ON THE NERVES CONNECTED WITH THE EYE.

Stretching the Supratrochlear Nerve. This has been resorted to by Brailey[27] for the relief of pain in absolute glaucoma. He reports some favorable results. The operation has not come into general favor.

Laceration of the Infratrochlear Nerve. Badal's operation[28] need not be dwelt upon.

Opticociliary Neurectomy. This operation is performed in various ways. The method employed by Golovin appears to be well planned.[29] The outer commissure is divided and the eye rotated strongly inward. Before dividing the optic nerve, ciliary muscles and vessels, they are seized with small clamp forceps 1 cm. behind the globe to prevent hemorrhage. The optic and ciliary nerves are then cut near the forceps, care being observed to include the bunch of ciliary nerves that lie beneath the internal rectus muscle. The globe is then rotated farther outward and the section of the optic nerve and ciliary nerves separated from the globe and removed. If the forceps controlling the hemorrhage are permitted to remain in position ten minutes, hemorrhage does not occur to any great extent. The external rectus may be united by sutures and the conjunctival wound closed. A firm compress bandage is necessary, as some bleeding may take place.

Results: (*a*) The eye may retain the appearance presented before the operation; (b) the operation may be followed by hemorrhage into the tissue of the orbit, producing exophthalmos; (*c*) ulceration of the cornea and atrophy of the globe due to trophic disturbances may result.

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[25] *Ophthalmoscope,* July, 1910.

[26] *Ophthalmoscope,* March, 1910.

[27] *British Med. Jour.,* Oct. 10, 1885.

[28] *Arch. d'Ophthal.,* XXI., p. 433.

[29] *Zeit. f. Augenheilk,* v., p. 414.

Golovin advises this operation in absolute glaucoma with pain; in absolute glaucoma without pain, when iridectomy is not possible; and in glaucoma when pain continues in spite of other operations.

Resection of the Superior Ganglion of the Cervical Sympathetic. This operation, which aroused so much interest in ophthalmic circles some years ago, principally because of the reports of the results obtained by Jonnesco,[30] has not proved of sufficient value to warrant its continuation except, possibly, in the very rare cases in which operations on the eyeball are not feasible.

The value of the operations mentioned in this communication appears to the writer to be as follows:—

Posterior sclerotomy and trephining back of the ciliary zone are operations that give good results in sightless, painful eyes in absolute glaucoma, relieving pain and permitting of the retention of the eyeball without danger of subsequent infection or injury of the fellow eye by sympathy. The writer's experience covers seven cases only. The operation was performed in absolute glaucoma for the relief of pain; it was successful in that the pain was relieved. The patients were under observation for various periods from three months to two years. In two of the cases the tension became about T — 1, and remained so.

Sclerociliotomy (Hancock, Walker) and ciliarotomy (Abadie and Querenghi) are operations which have been strongly advocated by their originators. They are operations with which the writer has had no experience. It is, however, very probable that they give temporary relief, at least, and they may be of permanent value in cases of absolute glaucoma. The writer would hesitate to perform the operation of Hancock in any case because of an open wound through the ciliary zone. Operators of experience are unanimously agreed that paracentesis of the anterior is only of very temporary benefit.

Anterior sclerotomy (de Wecker and Querenghi) belongs to the same category as paracentesis of the anterior chamber, except that the reduction of the tension of the eye is of much longer duration. If these operations alone are employed, the tension returns sooner or later, usually in from two weeks to three months. The greatest value that the operations possess is as a supplement to iridectomy.

Bjerrum's sclerotomy, since it contemplates incarceration of the iris, is a different proposition. The opening of the sclera is covered by a conjunctival flap and communication between the anterior chamber and the loose subconjunctival tissue is brought about and made permanent, when possible, by subsequent massage of the eye. The incision must, in many cases at least, cause the anterior chamber and the perichoroidal lymph space to communicate by dividing part of the annular ciliary ligament. This operation raises the question of the desirability of inducing and making permanent incarceration or prolapse of the iris, even subconjunctivally.

The operations of Rochon-Duvigneaud and de Vincentiis, which contemplate dividing the tissues at the iris angle and making more direct communication between the anterior .chamber and Schlemm's canal, must of necessity fail to bring about permanent reduction of the intra-ocular tension in a large percentage of the cases operated upon, although the favorable reports on the results of this operation by Tailer, Sgrosso and others make it appear that a fair percentage of the cases are very materially benefited.

Cyclodialysis as practiced by Heine is apparently losing favor. The reports of the operators who have practiced this procedure, other than Heine, G. Weinicke,[13] Elschnig[31] and others, indicate that it succeeds in effecting a permanent reduction of tension in approximately fifty per cent. of the cases. A. Knapp writes, "It can be conservatively stated that cyclodialysis is of value in certain limited conditions; it is indicated in the advanced cases of chronic glaucoma, especially those in which iridectomy has not succeeded in reducing the tension. It can not in any way replace the classical operation of iridectomy or its recent modifications in incipient glaucoma." The experimental research of Joudine,[32] Wichodzeff[33] and others made on animals demonstrate the fact, in the animals experimented on at least, that the communication between the choroidal space and the anterior chamber is soon closed by a deposition of cicatricial tissue. It is possible that the results of these experiments can be compared only in a limited sense to results in the human eye.

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[30] *Arch. d'Ophthal.*, July, 1898.

The operation of Fergus, which differs from that of Heine only in that the opening in the sclera is made by removing a disk 2 to 3 mm. in diameter by means of a trephine, can not as yet be passed upon, as a sufficiently large number of cases has not been reported. It is evident that its superiority over Heine's operation could result only from a more persistent filtering scar, due to the removal of the disk of sclera.

Operations that contemplate the incarceration or prolapse of iris, the incarceration of the conjunctiva or other tissue, or the formation of a cystoid scar without adequate covering, as by the conjunctival tissue, are open to the objection that infection may take place at a favorable time days or years after the operation and that sympathetic inflammation may occur. All ophthalmologists of large experience have observed these complications in such cases and have learned to look upon eyes in this condition as possessing a constant menace to vision. Operations that contemplate prolapse or incarceration with adequate conjunctival covering are objectionable because of necessary distortion of the pupil and, in some cases, deformity at the site of the wound. These eyes are not entirely free from danger of subsequent infection, but infection will be extremely rare and the benefits derived from some of the procedures, as for instance that of Holth, may justify the operator in making the operation. However, if the same result can be obtained by operation not complicated by incarceration or prolapse, the procedure is much more desirable. A protected filtering cicatrix without incarceration or prolapse of the iris or other tissue, with or without iridectomy, is a desirable condition to obtain. The endeavors of Lagrange, Holth, Herbert, Elliott and Verhoeff are in the right direction. The writer's experience has been almost entirely with the Lagrange operation. He has records of eighty-four Lagrange operations.

The cases were simple chronic glaucoma, 35; subacute glaucoma, 35; acute glaucoma, 7; absolute glaucoma, 2; secondary glaucoma, 5. Thirty-seven of the patients operated upon (33 private and 4 dispensary cases) have been under observation for periods varying from two weeks to four and a half years. The remainder were dispensary cases and were not kept track of. Vision before operation ranged from zero to 20/20. In the cases of chronic glaucoma, twenty in number, all the patients have retained vision as good or better than before operation except five. Of these, nuclear cataract is developing in two, in three the fields have narrowed slightly and vision is reduced. Of the subacute cases, twelve in number, vision has remained good; nuclear cataract is developing in two. The cases of acute glaucoma, two in number, were cured. There was one case of absolute glaucoma in which the pain was relieved; two cases of secondary glaucoma, tension reduced, so far permanently. The three forms of cicatrix described by Lagrange,[34] namely the smooth cicatrix, the dark line at the site of the sclerectomy, and the cystoid cicatrix, have been observed in my cases. The cystoid cicatrix predominates in the chronic cases. The writer is familiar with the research work of Thomas Henderson[35] which goes to show that the wound in the Lagrange operation is soon filled with new-formed tissue and the filtering channels obliterated. However admirably these experiments were conducted, they do not appear to apply to all of the operations performed by this method.

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[31] *Zeit. f. Augenheilk*, XXII., p. 591.
[32] Westnik. Opthal., March, 1908.
[33] *Klin. Monatsbl. f. Augenheilk.*, Dec., 1907, p. 601,

Aside from the occasional tearing of the conjunctiva where the fixation forceps were applied and a failure to remove quite as much sclera as was desired, there were no accidents. If the fixation forceps are firmly applied near the corneal margin and just below the point of counter-puncture, tearing of the conjunctiva will occur in only a very few cases. It is a rule with the writer never to operate for glaucoma if the tension can be held at normal and loss of field and vision prevented by the use of miotics. The treatment after operation is of great importance. It is the custom of the writer to begin gentle massage of the eye operated upon three to five days after the operation, to continue it daily while the patient is in the hospital, and afterward if desirable, and to have the patient use miotics as long as there is any indication of increase of tension above the normal. These measures have aided greatly in making the results as good as they have been. The writer is favorably impressed by the results of the operation and will continue to practice it in all suitable, important cases until he is convinced that some other procedure is better. It remains to be seen whether the use of the Vacher punch-forceps in removing a piece of sclera in the operation of Lagrange is better in any respect. Both have the same object in view; namely, the creation of a permanent filtering cicatrix.

In regard to the operations on the supra- and infratrochlear nerves, opticociliary neurectomy and the operations on the cervical sympathetic, nothing more need be added.

In acute glaucoma the classical iridectomy with the incision in the iris angle suffices to bring about a permanent desirable result in almost every case. It is well to obtain a subsidence of acute symptoms by the use of laxatives and miotics before the operation is performed, if possible, and if sclerectomy can be combined with the iridectomy (Lagrange), the good result will be more certainly obtained.

DISCUSSION.

Dr. Samuel D. Risley, Philadelphia: I wish personally to thank Dr. Weeks for coming here and for his review of the various well-known procedures in operating for glaucoma and his estimate of their relative value. I have great respect for the opinions of Dr. Weeks, based, as they are, upon a very large experience. One does not get very much experience with glaucoma before one ceases to be dogmatic, and we certainly can not accuse Dr. Weeks of being dogmatic in his expression of opinion here this afternoon.

In most respects, my experience has been in accord with his. It differs, however, in one respect, in the use of posterior sclerotomy for the relief of absolute glaucoma with violent pain, in hopelessly blind eyes. I have done it many times, with varied technic in its performance; but I have eventually been compelled to remove every such eye. I do not remember any instance in which I secured more than temporary relief. In my own hands, the best procedure has been to make a meridional section, so as to cut as few as possible of the choroid vessels.

I do not feel at liberty to speak critically of the newer procedures; at least, of those that have been more recently brought to our attention. I do not speak critically for the reason that I have had so little experience with them,

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[34] *Ophthalmoscope*, May, 1908.
[35] *Ophthalmoscope*, Dec., 1907.

I have been so fortunate in the results from properly performed iridectomies that I have no desire to abandon this operation for procedures that I may not understand so well, and the superiority of which has not been sufficiently demonstrated. When failure has followed iridectomy, I have usually been able to ascribe the failure to a fault in technic; not always a fault on my part, but usually some fault on the part of the patient himself, when I have been guilty (and I use this word thoughtfully) of trying to do an iridectomy in inflammatory glaucoma without general anesthesia. I think that the surgeon who attempts to do an iridectomy in inflammatory 'glaucoma without general anesthesia, on a patient to whom it is safe to administer an anesthetic, has not done the best for his patient. In a hard eyeball, neither cocain nor any other drug is absorbed; and, therefore, we do not secure the value f local anesthesia as in other ocular affections. In order to perform a technically correct iridectomy, the eye must be still, and the patient relaxed. There should be a good light, a steady hand, and well-selected instruments. I prefer a keratome, the blade of which is an equilateral triangle. If the anterior chamber is shallow, the difficulties are greatly enhanced; but in the vast majority of instances, the marked increase of tension should be diminished by preceding treatment, such as the administration of sulphate of magnesia for free purgation, and the coincident or following administration of large doses of some very soluble and rapidly absorbed alkaline earth. I prefer chlorid of calcium. If the blood pressure is high, it should be reduced. Having secured this, the point of the keratome should be introduced so that its point shall enter exactly on the anterior plane of the iris at the angle of the anterior chamber. Carry it home to the base of the triangle. A suitable keratome will not be long enough for the point to injure the cornea at the lower side of the anterior chamber. Then, by grasping the iris firmly at the pupillary margin, one may carry it fully out and strongly to one side; and, with a succession of snips, take it off absolutely to the root. This makes a difficult operation; but, when correctly done, I do not think that we have devised any procedure to replace it. I believe that the newer operations will suffer the fate of many other procedures in surgery, and pass into the history of ophthalmology as inferior, when compared with the beneficial results from a properly-performed iridectomy, done under suitable conditions.

Dr. William Campbell Posey, Philadelphia: I want to thank Dr. Weeks for giving us his views on this important phase of ophthalmology, and particularly to commend his conservatism. Dr. Weeks does not operate on all cases of glaucoma, but says that in chronic glaucoma, if he can keep the patient under observation and maintain the vision and the visual field by miotics, he prefers that plan of treatment. If the vision and the field of vision deteriorate, he then performs the most conservative of all the newer forms of the operations that he has described.

Some years ago, I was asked by Dr. Casey Wood to write the chapter on glaucoma, in his volume on the Surgery of the Eye. I thought that I should have a very easy task until I came to collect and describe the numerous operations that had been introduced into ophthalmology by men from nearly every country in the world. As Dr. Risley says, most of these operations are obsolete and probably will never again come into use. The Lagrange operation is, however, I think, a most serviceable procedure; I have still greater confidence in it now that we have heard Dr. Weeks say that he has done it eighty-three times and with excellent results. The operation is simple; with a proper pair of scissors, it is easy to excise a small part of the sclera adjoining the cornea. I have performed this operation some half dozen times with success. As Dr. Weeks advised at the meeting of the Clinical Congress in Philadelphia, last autumn, prolonged massage of the eyeball after this operation greatly augments the results obtained from it. I have had good results from the Heine, or cyclodialysis, operation, particularly in the class of cases in which Dr. Weeks advises posterior sclerotomy or trephining of the sclera. The Heine operation is particularly of value in cases where miotics have failed to hold vision, and where a hemorrhage is feared. I saw such a case this morning in consultation at the Scranton State Hospital. The patient, a woman forty years of age, had a deep cup in her right nerve with great dilatation of the retinal veins. The field of vision was much contracted. I advised miotics, insisting upon their instillation four times daily, as these drugs lose their effect at the end of three hours. Should, however, vision and the field of vision deteriorate, I advised Heine's operation, thinking that procedure gave a better chance for maintaining vision than an iridectomy or a Lagrange operation, on account of the danger of hemorrhage, as indicated by the extreme stasis in the retinal circulation.

DR. WEEKS, closing: I should like to say a few words regarding the use of a general anesthetic in acute glaucoma. I believe that the observation made by Dr. Risley is very wise indeed. We must have the eye quiet, in order to get the best results.

With regard to Heine's operation, I have no doubt that it would be valuable in cases where hemorrhage would be expected; and certainly it would produce a temporary beneficial result. For general use, however, I think that the Heine operation has probably seen its best days.

Dr. Risley has asked me to mention the irritation following the use of miotics in certain cases. A short time ago, a patient of mine returned from abroad with a condition that appeared to be trachoma. I asked how often he had used the drops, and he said that he had used one preparation of miotics for some months. I told him to have it made fresh every ten days, and have it put up in a sterile solution of boric acid. At the end of six weeks, his trachoma had disappeared. This condition is usually due to the use of miotics that are not clean. If sterile, the miotic will give very little trouble.

ETIOLOGY OF PHLYCTENULAR CONJUNCTIVITIS AND SUGGESTED TREATMENTS.

BY HOWARD F. PYFER, M.D.,
Norristown.

(Read in the Section on Eye, Ear, Nose and Throat Diseases of the Medical Society of the State of Pennsylvania, Scranton Session, September 25, 1912.)

Dr. Cutler of England says "There are only two diseases of the eye that have bound up with them great sociological and industrial problems, and they are ophthalmia neonatorum and phlyctenulosis." This is true because of the large number of blind children produced by ophthalmia, because of phlyctenulosis by keeping the child in darkness for months, away from school and play, during a period when the bones and tissues of the body are forming for adult life, and by causing scars on the cornea, such dimness of vision results that the highest vaulting ambition is throttled, or the most persistent, patient, plodding endeavors are nullified.

These latter children with their diminished sight, more unfortunate than the blind whose fate is sealed, must struggle on and on with those who are unhampered and, being unable to meet the stress and strain, at last helpless and hopeless, become the jetsam and flotsam of our increasing economic problems. As oculists we all have recognized this condition but accepted it with lethargic indifference.

I had my awakening from a complacent knowledge of the subject of phlyctenulosis, or strumous scrofulous keratitis, or phlyctenular ophthalmia, or phlyctenular kerato conjunctivitis, or eczematous conjunctivitis, or conjunctivitis lymphatica, by the following case.

A little girl, five years old, was brought to my office for sore eyes. History: Premature baby, raised with difficulty; parents were over forty, both healthy with no specific or tubercular taint. The child though delicate had had no severe sickness. Three months previously she had had measles, having been kept in dark room by the family physician, making an uneventful recovery. The light continued to hurt the right eye. She was given boric acid drops and dark glasses. Despite care in use of drops she fluctuated between good and bad until the parents brought her to me. Her type was that of a Dresden doll; fair complexion, painfully neat and trim, light hair, slender without emaciation. She held her little hand over the right eye and blinked with the left. Examination showed two typical phlyctenular ulcers on the limbus of the cornea with the associated congestion, orbicular spasm and lacrymation. The diagnosis and the future treatment seemed so clear that almost mechanically I said, "Do not give this child any candy, cakes, coffee, tea, or pie and give her these drops (syrupus ferri iodid) in water and one pill (one grain blue mass) at night, using ointment of boric acid and atropin and hot applications."

Her food had been simple and digestible. On her return two days later the ulcers were healing. After ten days the child's eyes were better. Then came a recurrence with all the original severity. Her menu was carefully followed and rigidly scrutinized with no contra findings. I prescribed a divided calomel purging and tried the hypophosphites and syrup of hydriodic acid. To end a long story, after racking the pharmacopeia, using different remedies with some results and frequent recurrences of the phlyctenulosis I recommended the removal of the adenoids and tonsils, thinking these to be the source of infection. The operation was done under ether and results were brilliant for ten days, the eyes clearing up entirely. However, after a motor-boat ride, the lacrymation, ciliary injection and photophobia began, to be followed in twenty-four hours by a small corneal ulcer.

As I was away at the time the parents took the child to a sectarian physician who said that he needed a certain sectarian oculist to assist in the treatment as allopathic medicine was too strong. Although the child has been three months under this sectarian treatment the eyes are not yet entirely well.

Gentleman, why did I fail? Food, lodging and cleanliness were perfect. Standard remedies like syrupus ferri iodid and Fowler's were given regularly and judiciously. The local conditions were treated by atropin, argyrol, compress bandage, trichloracetic acid, nitrate silver, yellow oxid, as necessity arose. Tonsils and adenoids were removed and yet that patient fell into the hands of one less competent than myself. The healing under treatment was satisfactory, but suddenly, as with Sisyphus, the rolling stone rolled back again and the process had to be repeated.

On looking backward in my practice and hospital experiences I see many similar sad cases. Only a constitutional, overwhelming poison, with deposits at the limbus, could produce such a condition. Syphilis could be ruled out, tuberculosis remained. The von Pirquet test offered a solution for the problem and I ordered H. K. Mulford Company's tuberculin.

I have used the subcutaneous test with little patients suffering from eye trouble. To my astonishment the reactions have been positive in all cases of true phlyctenulosis. Wishing to extend my researches, I received permission from Dr. Lefever of Jefferson Clinic to make the inoculations at Jefferson Hospital and in a series of twenty-seven patients found, in all cases of true phlyctenulosis, a positive reaction. These patients were all under fifteen years of age. All the hospital patients gave strong third-degree reaction (many had a long history of sore eyes and many showed other stigmata of tuberculosis). All but one patient in my private practice have had first- and second-degree reaction, probably because they came from a class of people better nourished and cared for. Where the von Pirquet was negative, I was doubtful about my diagnosis. The suggestion that those not suffering from phlyctenulosis would show a positive reaction caused me to apply the test to five children suffering from blepharitis and simple conjunctivitis. None of these gave any reaction. The general appearance of the children was apparently the same as those who reacted to tuberculin, yet these were not infected with tuberculosis and did not have phlyctenulosis.

For fear that the reaction from von Pirquet was due to the scraping and rubbing in of a foreign substance, I ordered serum from H. K. Mulford Company and used it on the control with absolutely negative results. The private office results were: In twenty-two patients, positive, sixteen, seventy-three per cent.; five had some other eye lesion, and one had only a slight reddening that I ruled out as not positive. The hospital results were: In twenty-seven cases, positive in all, 100 per cent.; many of these patients had all the stigmata of tuberculosis. The children were from all classes of life; the spoiled Jewish child from the ghetto with his fist full of cakes, the dirty negro child, the scared Italian child, all were there. Some of the little patients had been kept in the hospital from two weeks to three months with cleanliness, care of diet, roof garden, etc., showing marked improvement, but none of these patients were treated for a general tubercular infection, nor was phlyctenulosis looked upon as a tubercular manifestation of a general tubercular infection. Wills Eye Hospital, Medico-Chirurgical and others in the city treat their patients with the regular routine care of diet, with atropin, yellow oxid, iodoform ointment and syrupus ferri iodid. Either the attention of the chiefs of the clinics has not been called to results of tuberculin tests or interest in operative procedures for glaucoma, or detached retina, or brain tumor, has prevented these little children from getting the care that they so much need.

To complete a report I needed the literature. I searched the *Index Medicus* for the year 1911 and found each month a number of references from the French, Italian, German, and English literature, only two from the American.

M. Duverger[1]: Test with tuberculin is always negative in a newborn child.

Bywater[2]: Twelve cases Moro's all positive, all showing evidence of tubercular infected glands.

L. Weckers[3]: 156 children, ninety-one per cent. positive clinical evidence of tuberculosis. Summarizing he says, "In view of the irritation produced, of the ophthalmic reaction, and the results of the infection of tuberculin, the ocular phlyctenules are the result of soluble products of tubercular origin circulating in the blood stream and the phlyctenule is analogous to certain cutaneous tuberculoids. It is a toxi-tuberculid growing on a soil already prepared by tuberculosis or infected by tuberculosis. This has a special importance for the prophylaxis and treatment of this serious affection." He reports that in 143 patients 123 gave eighty-nine per cent. positive reaction to the von Pirquet. He was struck by the "frequency of the reaction."

Liber at the Congress Heidelburg, 1901, called attention to the very close analogy of the phlyctenule to the tubercle.

Nias and Paton Lancet worked on the theory due to infarctions of dead or attenuated tubercle bacilli. They found the opsonic power blood in fifty cases was deficient; that is, in the opsonic power to the tubercle bacilli, not to others.

Nobecomb and Splekmann draw the conclusion that the tubercular reaction with association shows the tuberculous origin.

Stevenson and Jamieson: Twenty cases positive tuberculosis associated in fifty per cent. of cases. In 765 cases eczema was present. This may be remotely due to tuberculosis.

Hoyashi: Pathologic findings,—infiltration leukocytes beneath Bowman's membrane; epithelium sloughs membrane, eroded scar results; in three cases nodules presented typical tuberculoid structure.

Snell thinks diet alone is the cause of trouble. Tea, coffee, potatoes, pie *(all pastry)*, cookies, cake, bananas, candy and fried meat should be prohibited; food is deficient in proteid; carbohydrates are in excess; evidence of malnutrition is sometimes due to toxins of acute exanthemata and scrofula.

Patton in an instructive paper says, "Scrofula is an unscientific word, but in this connection it is significant in its clinical manifestations. It is usually associated with phlyctenulosis or the phlyctenular disposition. It is true patients rapidly recover with diet regulation, treatment of nose and throat, and proper internal medication, but there are some with whom the treatment continues over months with indifferent results and recurrent attacks. Von Pirquet's test has shown in a surprising percentage of cases positive reaction. Suggestive conclusions and treatments seem to indicate clearly the oculist's duty to add to the routine measures a treatment for a tubercular infection."

Dr. A. d'Ayreux of Paris frequently found tubercular glands but rarely confirmed tuberculosis. Radioscopy usually showed the existence of a tubercular lesion. Of seventy-five cases in only four was he unable to get some tubercular manifestation. Sixty-nine per cent. of these showed an inflamed pharynx. In a later communication he cites 170 patients, age less than fifteen years, eighty-nine per cent. gave a family history of tuberculosis.

Roux and Josserand say that the rhinopharynx constitutes an infective origin for tuberculosis.

Vossins quotes Perlia in a meeting at Dusseldorf, 1905, that in tubercular individuals an ordinary inflammation can bring out "Entzundungen mit ausgesprochenen tuberkulosen charakter."

Cutler quotes that Leber found in three out of five cases, from sections of the phlyctenule, numerous giant cells. The structure may be tuberculoid; no tubercle was found.

Axenfeld has always obtained a positive reaction with all ten cases where tuberculin was used.

Verhoeff has recently offered an explanation which is difficult of proof but interesting. He attributes the phlyctenule to the phenomena of anaphylaxis. To quote his words: "Let us suppose that in early life perhaps in infancy an infection with tubercle bacilli takes place and is perhaps followed by recovery. In accordance with the theory of anaphylaxis all the tissues might be sensitized by the toxins, but some more than others. If the child continues to live under satisfactory hygienic surroundings and remains otherwise healthy, no harm will result; but if some infectious disease like measles occurs, or the resistance is lowered so that the old infection becomes active again, or a new infection follows under these conditions, the tissues previously electively sensitized may react to the first supply of tubercle toxin thus producing the characteristic lesion." That is to say, the previous infection has so sensitized the tissues that an insignificant reinfection or exacerbation, will produce results out of proportion to its own magnitude.

In the same manner we may explain the reaction to tuberculin when the supposed focus is undiscoverable. Also it seems fair to assume that the hypersensitiveness may diminish with years, thus explaining the diminishing frequency of phlyctenules and scrofula in adult life. It has been said by Calmette and Wolff-Eisner that "those who are predisposed, or susceptible, are already tuberculous and are actually combating tuberculosis." This is not a new idea but it makes it doubly important especially in children, in the warfare against this disease, to grasp the signs of a latent, imperiling focus, and not to content ourselves with the treatment of the local manifestations.

Richard J. Tivnen reports fifty cases of which a careful record was kept and every essential detail carried out faithfully and energetically. He used the tuberculin bacilli emulsion (B. E.) human type, serial dilutions (Mulford) for treatment, individualizing the dose. His patients' ages varied from one to fifty-six years. Duration was from two days to five years; sixty-four per cent. showed lymphoid complications; twenty per cent. showed family history of tuberculosis; twelve had a personal history of active, or latent tuberculosis; ninety-two per cent. gave positive cutaneous reaction with von Pirquet test. Treatment continued from three weeks to six months. With tuberculin he cured sixty-four per cent. and improved twenty-six per cent. He is convinced that conjunctivitis eczematosa is a manifestation of constitutional tuberculosis; by the symptom complex, every stigma of a tuberculosis process being accentuated and occurring with startling constancy; finally, the evidence corroborated by investigation of numerous observers all lead to this positive conclusion.

Dr. Davis's paper, read at Niagara, is not yet published so I can not quote.

It is true as Dr. Reber has well said: "Every child born into the world is the possible subject of tuberculosis. If it establishes its immunity early it is a lucky child. If it does not, one of two things happens, either it establishes its relative immunity and shows occasional evidences of the disease, or it goes down before the scourge before the twentieth year. The interesting fact is that relatively few people die of tuberculosis after thirty. As a rule complete immunity is established by that time." This last statement of Dr. Reber's I would modify by the suggestion that while the death certificate after thirty reads something else, in a considerable number of cases the underlying factor is a tubercular lesion that showed in early life all the pathognomic signs but the disease was left to nature to heal indifferently when the doctor should have directed the healing and limited the infection.

None of the modern textbooks, as far as I have reviewed, have accepted phlyctenulosis as a tubercular manifestation; but then textbooks are usually three to five years behind the times. However, in every one can be found the description, symptoms, diagnosis and treatment of phlyctenulosis. These have nothing to do with my paper. The wide prevalence of the disease, the disastrous effect on sight, the waste of time and the results in deficient schooling may be dwelt upon in our section, but it is more important still, I believe, that we should discuss the etiology, stamp with our approval that pathologically and clinically, as demonstrated by careful, competent observers, phlyctenulosis is a manifestation of a general tubercular infection, if not a true tubercular lesion. These little patients should have all the care and modern surroundings that twentieth century civilization is giving the tuberculous. Oculists should associate an internal medical man with them so that distant foci of disease, the glandular or pulmonary condition, can be watched, and the results noted. Too long have we accepted the dictum of past clinicians that proper food and atropin, yellow oxid, iodoform *ad nauseum* will always cure phlyctenulosis. It is my earnest hope that our section will go on record in its discussion and support of the axiom, a phlyctenular child is a tubercular child.

Nature is great. She gives her tints to the toadstool, her rattle to the snake, her odors to the poisonous nightshade and her colors to the poisonous tropical sea fishes so that unmistakably the man of ordinary intelligence can be warned. So she has been showing us physicians that early in a tubercular infection the child has tuberculosis; that the child with sore eyes needs energetic, prompt, trained treatment by both oculist and internist. It is the flag of danger and we should immediately warn the parents, that now is the time for Mt. Alto, White Haven or other sanatoriums. Some celebrated theologian has said, "Give me a child before seven years and I care nothing who gets him afterwards." So we should claim our child early. When the apices of the lungs of the adult are involved, it is too late.

Should the oculist administer tuberculin? W. B. Metcalf, Chicago, in the *Illinois Medical Journal* recites some of the requirements and dangers. From experience and observation he is convinced that a great deal of harm has been done, is being done and will continue to be done with tuberculin, until the profession comes to a full realization of the dangers that attend its faulty administration. He believes that the state should institute a graded system for testing, beginning with the children. In this way the obscure as well as the incipient cases can be discovered at a time when repair and recovery are easy and certain. Metcalf would go even further than this and require that all children who give a positive reaction be treated with tuberculin. If this be done, he says, tuberculosis will yield as completely as smallpox and yellow fever have yielded to preventive measures. It is Metcalf's impression that when a physician condemns tuberculin, he has either never used it, or he has not used it properly, or he has expected it to do the impossible, or he has used an inferior tuberculin.

In conclusion it may be said that the evidences, the clinical findings, the treatments all show that phlyctenulosis is a tubercular manifestation of a general tubercular infection. Therefore, let us treat the eyes of these little sufferers judiciously, bearing constantly in mind the importance of constitutional measures, emphasizing the use of tuberculin, the necessity of good diet, fresh air, sunshine and ocean breezes.

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DISCUSSION.

Dr. Luther C. Peter, Philadelphia: For the most part, I can heartily endorse the findings of Dr. Pyfer on the etiology, course, and treatment of phlyctenulosis. The broad, general, underlying cause, I think we will all agree, is lowered vitality, not necessarily malnutrition. When submitted to a careful physical examination, none of these patients, young or old, are up to par. They all give evidence of lowered vitality.

In my experience, we can divide all cases of phlyctenular disease into two classes; namely, those in whose bodies tuberculosis can be clearly demonstrated, and a small group composed of those in whom tuberculosis has not been shown by a clinical or laboratory test. There can be no doubt in the minds of any of us that bad surroundings, improper food, adenoids, and the acute exanthemata are large contributing factors in the etiology of this common disease of childhood; but as to the part played by tuberculosis, we are not entirely in accord. The speaker believes with Dr. Pyfer that tuberculosis is a larger etiologic factor than is now generally conceded.

The compilation and study of statistics in large numbers has the disadvantage of inaccuracy and lack of care in the study of each individual case. Exhaustive physical examinations by competent internists are not always made, and a diagnosis of tuberculosis is often allowed to hinge on the positive or negative character of the von Pirquet or Calmette test with tuberculin. I am a strong advocate of tuberculin in diagnosis and treatment; but in scientific research I do not believe that we have exhausted our investigations until, by repeated subcutaneous injections of tuberculin, we have confirmed or denied the accuracy of the von Pirquet test, if it is employed.

Von Pirquet has given us an instructive résumé of the value of his test in his study of two hundred children whose cases came to autopsy; but, for scientific conclusions, I believe that the subcutaneous use of tuberculin should be added to check up inaccurate results.

Furthermore, notwithstanding the value of tuberculin as a diagnostic agent, when used by von Pirquet's method or subcutaneously, a careful and exhaustive physical examination, made by a skilled internist, should be the *sine qua non* in the study of these cases, in order to arrive at scientific conclusions. Twenty cases studied with this care will give us more dependable data than the statistics of five hundred cases studied indifferently. The improved laboratory tests of the day have caused us, in a measure, to neglect our older methods of diagnosis. The function of the laboratory test should be the confirmation of the clinical diagnosis, rather than the court of final appeal, with insufficient corroborative evidence.

The eruptive diseases of childhood, I believe, rarely in themselves produce phlyctenulosis, but operate by acutely lighting up old or latent fires of tuberculosis; just as adenoids, poor food, and bad surroundings slowly prepare the soil that eventually results in tuberculosis. I do not bring before you large columns of statistics to substantiate these assertions, but they are the convictions of eighteen years of observation in general and ophthalmic practice. Those of you who have spent much time around the post-mortem table and have witnessed the many healed and quiescent foci of tuberculosis that apparently escaped detection during life, must be convinced that we have not as yet reached that stage of perfection in diagnosis where we can always say that tuberculosis does or does not exist in a given patient. The most that we can say is that we have failed to detect it. However, there undoubtedly are instances of phlyctenulosis in which tuberculosis apparently does not play a part, a small group that can be clearly separated and treated accordingly. They are the hopeful cases.

There can be little question as to the constitutional origin of phlyctenules. It matters little what local treatment is used, so long as proper measures are taken to improve the general health. In fact, a simple boric-acid wash or the yellow oxid of mercury ointment accomplishes as much as any local measure that I have tried.

As to the general measures that Dr. Pyfer has suggested, I can heartily agree with him. We can not emphasize too much the importance of the breathing spaces, the removal of the adenoids and offending tonsils, and the widening of the nasal chambers. Most of our patients will recover from the attack with these general measures. Will they remain well? What is the significance of these recurrences? My own feeling has been that tuberculin should be used in every case that will give a positive reaction to the subcutaneous injection of tuberculin; and also in other intractable cases in which a reaction has not been positive, if clinical evidence seems to point to the presence of tuberculosis. We can not lose sight of the possibility that the presence of phlyctenules indicates a state of anaphylaxis (therefore the negative reaction) or an advanced state of tuberculosis.

Just a word as to the serious character of the disease and the necessity for prompt and energetic treatment. So frequently do we see this condition in children that some are apt to minimize the dangers. Aside from allowing the general disease to go untreated, and thus allowing the patient to become a menace to others in the community, relapses are bound to bring about limitations of vision and (for all practical purposes) blindness, in not a few instances. It therefore becomes an economic problem of great importance, and should command our broadest and most unbiased interest in prescribing the most satisfactory line of treatment.

Dr. Lewis H. Taylor, Wilkes-Barre: The hour is too late for me to discuss the paper. I am only sorry that Dr. Pyfer did not have a full audience and the whole session, because it is a very important communication and is worthy of a full discussion. As it is, I shall take only a minute or two.

I agree with the most of what he has said. I have treated many cases of this sort, and have had many good results; but many cases have lingered a long while before being finally cured. I have never used tuberculin; nor do I believe that all these cases are, as Dr. Pyfer intimates, manifestations of tuberculosis. I believe that many of them may be so, however; and I believe that all these cases are a manifestation of some systemic disturbance, and that a good point in the treatment depends on getting the digestive tract into proper condition and avoiding such food (candies, sweets, etc.) as will create a disturbance in that direction. I always believe in treating these patients in a general way, and I think that one of the best remedies is syrup of the iodid of iron. The local treatment should be continued, and should be varied from time to time, according to circumstances. I have seen cases, as you all have, in which the patients are apparently hopelessly blind. That is, they are brought to you by the parents, who say that their children are blind. The little patient sees almost nothing, the condition is so bad; yet it is surprising how these cases do clear up under appropriate care and treatment.

I am sorry that I have not time to say a great deal more, but we can not go into all the details.

Dr. C. M. Harris, Johnstown: After I described a case to Dr. Pyfer this morning, he asked me to report it so that it might be included in the discussion of his paper. It seems to be the assumption of some observers that what we know as episcleritis is a pronounced form of phlyctenules. The case that I described to Dr. Pyfer was as follows:—

A young woman of eighteen came to me with what I regarded as typical manifestations of episcleritis. There was present a bluish patch with a good deal of injection overlying it. By means of atropin, heat and other local measures and iodids and salicylates internally, it subsided in three weeks. In nine months, she came back with a similar patch adjacent to the former one, but more pronounced in type. In the center of this infiltration was a smaller yellowish patch, probably three millimeters by two. By pressing, a slight fluctuation could be seen. The eye was cleansed thoroughly, the purulent area opened, a smear taken, and the cavity mopped out with tincture of iodin. It healed in at that point, but the same condition recurred a short distance away. It progressed around the cornea for probably one quarter of its circumference. Iodin did not act so well later, and I tried galvanocauterization, which did little good. I used all the measures that I had employed before, without avail. The bacteriologist found some attenuated tubercle bacilli in this pus. The girl refused to have tuberculin used. The von Pirquet test was positive, and the local symptoms cleared up markedly a few days after the test.

Dr. Nelson S. Weinberger, Sayre: I should like to ask Dr. Pyfer whether he meant to convey the impression that he makes no diagnosis of phlyctenular tuberculosis unless he gets a positive reaction. In Wills Eye Hospital, we tested both children and adults, and often failed to get a reaction both by the von Pirquet method and by subcutaneous injection. As we got no reaction with tuberculin, we did not consider the condition tuberculous; and yet I fully agree with Dr. Pyfer that there is some latent tubercular general condition that accounts for these cases.

Dr. G. Edgar Dean, Scranton: There are possibly about three points that were not well brought out in this splendid paper. I am sorry that it was not presented at a time when everybody could have heard it, so that the discussion might have been free and full.

One point is that, as Dr. Königshöfer, of Stuttgart, points out, there is a possibility that these cases are some phlyctenular, and some herpetic, in character. Those due to nasal pressure, for instance, are liable to be herpetic. He said that he could detect the difference by taking a probe and touching the ulcer itself. If herpetic, it would not be sensitive; but if it were truly phlyctenular, it would be very sensitive.

I have a case in which I have just prescribed glasses, which may be interesting to the gentlemen. It was one of the most intractable cases that I have ever treated; and I ran the gamut, about, of those remedies that have been mentioned. I am sure that I gave syrup of the iodid of iron, as Dr. Taylor advocates; and yet the case hung on my hands. At last, in sheer desperation, supposing that it might be caused by what I presume a great many of the true phlyctenular cases are due to, a diminution in the size of the absorbent vessels, I gave this child, not cod-liver oil, but one of its extractives. The patient got well like magic and, to the best of my knowledge, has remained well ever since. This was seven years ago. I have just prescribed glasses to this patient for mixed astigmatism with a hyperphoria. This child, if she was tubercular, has remained well thus far, for seven years since the treatment. It is an exaggerated case; but even the ordinary cases will usually be found to have some error of refraction.

One thing that has not been brought out in the treatment is that, in properly selected cases, a local treatment of toluidin blue is valuable, as was brought to my attention by Dr. Taylor some years ago—1:1000. It is somewhat difficult to procure.

Dr. John B. Turner, Philadelphia: I spoke to Dr. Pyfer about this paper to-day, and I certainly must compliment him on the work that he has done. We all have our ideas on the subject; and I believe that a great many cases are not tubercular, but are due to a rundown system. Some patients, too, inherit syphilis, which depresses the system. I have a treatment that has given me a good deal of satisfaction. In a case of phlyctenular trouble, I use a one per cent. holocain solution, then wait five minutes and use yellow oxid ointment, which is not then washed out by the tears. It does good. Of course, in a case in which I suspect inherited syphilis I give bichlorid of mercury. There was a girl, eighteen years of age, who had been to several clinics. She was at work in a month. By that treatment, simple as it is, we usually get along; but I have seen patients in whom, if they had adenoids, the cure would not be permanent until adenoids were removed for they seem to stop the lymphatic circulation. I wish to congratulate Dr. Pyfer on his able paper.

Dr. Wendell Reber, Philadelphia: In regard to immunity, I can still make the assertion that in my own belief every child must establish his own immunity to tuberculosis; but, as some children will do so in the first year of life, and some perhaps not until the twentieth year, the institution of tests with tuberculin in a series of children near any certain age is going to be, in a certain sense, misleading even though largely true. The term used by the essayist, toxic tuberculoid, is beautiful; for I believe that its use would allow us all to come together, no matter whatever else we might hold, if we accepted that statement. I believe the question of its tuberculous nature should be investigated in every case of phlyctenulosis, and I believe that many of you would admit that not all are of toxic origin; but you will admit that they are combined in some degree in every case, sometimes the toxic, and sometimes the tuberculous element predominating. Very few cases would escape the classification of toxic tuberculoid. My custom has been that each of these children should be remanded to a careful pediatrist's care. Simply to clean out the digestive tract is helpful; but, unless the case is followed up, the condition will return. The Calmette test in these cases is dangerous. In the early days of this test, I produced a violent inflammation with interstitial keratitis in both eyes of a child eight years of age; and it required the best part of a year to quiet it. I, therefore, agree with those who hold that a subcutaneous test is the best.

The syrup of the iodid of iron should be begun in small doses, and gradually raised to sixty, seventy, eighty, or ninety drops a day, or even as was done in one of my cases, fifty drops three times a day. It is of extreme value. Calomel has been used for years; and I have nearly always followed the custom, spoken of by Dr. Turner, of using holocain to quiet the fifth nerve terminals in the conjunctiva and thus keep the medicine from being washed away.

Dr. Pyffr, closing: When I wrote my abstract of the paper, I believed with most of my colleagues that this condition might possibly be tuberculous in some cases; so you see that the abstract is somewhat different from the paper. When I gave up my vacation and spent a good deal of time in the Physicians' and Surgeons' Library, I saw the vast amount of literature that there was on the subject translated from various languages; I was overwhelmed with the evidence that tuberculosis almost always plays a part in the causation of this disease. If Dr. Peter, instead of reading my paper, will take up the papers of more learned men who are associated in large hospitals with Röntgen-ray experts and internists, and see the results that they have found, he will be as much convinced as I am; and if a paper by him should follow mine, I think that his would show him to be strong in this belief. The cases that I quoted, fearing the gavel of the chairman all the time, were a few of those eight hundred and fifty to nine hundred patients whom these authors have carefully watched. I am not a trained laboratory man like the Germans; but they have gone into the subject thoroughly, and so have the French. All that I can do is to refer Dr. Peter to the literature, and he will take back three fourths of what he has said.

As to giving iodid of iron, I can not understand why it would not be better to give syrup of hydriodic acid. Why should one use a lot of iron, which is not assimilated, and only colors the stool of the child? It is the iodid that does the good.

I believe that Dr. Harris was right about these cases. If I had been the chief of the clinic, I should have had all these patients examined; but I was only a privileged visitor.

THE MEDICAL PROFESSION, PUBLIC OPINION AND ANIMAL EXPERIMENTATION.*

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(Read at the General Meeting of the Medical Society of the State of Pennsylvania, Scranton Session, September 25, 1912.)

In answer to the invitation of the state medical society to discuss this important topic, I have been urged to accept by one consideration. Briefly, this is for the fuller understanding and exposition of the relation of the medical profession to the public, as well as the present-day attitude of the physician and laboratory worker to public opinion upon questions mainly medical.

It is not an infrequent occurrence that hasty opinions are offered by each and every one upon questions which are foreign to his individual profession. To a certain extent our aptitude to form these hasty opinions is dependent upon our close association with the not unbiased opinion of the daily papers. Politically, without hesitation we rely for our information mainly upon the daily press and periodicals. We have little time, even if we were so inclined, to enter into a serious research to obtain the truth upon each clause in the platform of a political party. And yet these are matters of our daily life. We are interested in politics because of their close association to our own interests and our home. In such matters it would appear that every one, who remained even to only a slight extent in touch with his daily surroundings, should be fairly well equipped to discuss the polities of the government and the value of long deliberations by our political representatives. It is not, however, until we have placed ourselves in the position of one who gives initiative for new acts or one who must for his livelihood closely study a particular trade or profession, that we appreciate even in the smallest way the intricate problems which confront that particular work.

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It is probably true that in none of the sciences does the individual student or critic require to be armed with such diverse knowledge and experience to have a proper understanding of his subject as in medicine. There is a long history indicating the evolution of medicine and its allied sciences. Much of what has occurred in the past influences us but little in our present position, but nevertheless the art and science of medicine has accepted much from the older teachings, particularly in placing the profession above the quality of a trade and by imbuing each of its associates with the seriousness of the work undertaken and the necessity of truthful observations for advance.

It is impossible for anyone to indicate the quality of the mind which has led the profession on the up-hill climb to the position which it occupies to-day. The character of medical thought and persuasion is the composite aggregation of experiences gathered by generations from many fields.

It has for example been through long years of observation and research that certain social laws for the prevention of smallpox have been established. These observations were not made haphazard nor were they evolved upon antecedent theories, for the theory only followed the actual observation. At present it is not our point to discuss the value of vaccination, yet there are individuals who, without experience, either in subjects of immunity, health or disease, attack the findings of students in this work. We can not too strongly denounce such an attitude. We would offer the same criticism to each one in the professional world who, inexperienced, deemed it his privilege to offer the last word in a foreign field. For the last fifty years the medical profession has been unusually active in determining causes of disease and indicating the prevention thereof. Much of the knowledge which has been acquired through hard work is looked upon by some as the natural course of events which would have become the property of the public even though the medical profession had not existed. Of course a discussion, with such opinions, is futile and leads to no end. I would even say that many of us in our own profession do not realize and impose sufficient weight upon the difficulties which had to be overcome to reach the status of the profession to-day. The martyrs in medicine are legion, but it would be ungrateful for me to offer their names in a discussion which to some still remained unconvincing.

What I wish to emphasize to-day is that we in the medical profession must come to a closer understanding with the public. In years gone by there was a time when the physicians and surgeons were a class who stood quite apart from all other people. In the mysteries of ignorance which surrounded medicine at that time, and it is not so long ago, there was reason for maintaining a certain secrecy upon individual opinion and methods of treatment. However, as new light was shed upon the dark places the public became interested and themselves enthused in the progress made by their students. Not only did they become interested in what they realized was for their own happiness and welfare, but they encouraged the work by offering moneys, buildings and public support to carry on investigations in untrodden fields. It must be patent to all that, as individuals, little could have been accomplished without the hearty support of the public. Hence it is, that we as a profession, are under an obligation to our fellows, who though not one of us, share our failures and successes with us. The closest relation between the professional work and the public is best indicated in the interest exhibited in the municipal, state and federal hygiene departments.

It thus appears to me that we must not be hasty in condemning the public for wishing to know more intimately something of the inner workings of the medical sciences, and instead of allowing only rumors of our work to filter through to the public, there should be a careful exposition of our findings portrayed in such language that it may be understood by all. The best of medicine is written in words of two syllables.

On the other hand the public is ill-advised to attempt democratic rule and regulation of matters which are of vital importance for the progress of the medical sciences and for the betterment of the health of the public. We may only indicate that it is but a short time since the public has taken an interest in scientific medicine and has given it proper support. It needs no long research in the history of medicine to find that those who by their works have placed the milestones in the progress of scientific work, were aided but little or not at all or were even hampered by the attitude of the public opinion. The work of Paré, Vesalius, Harvey, Hunter, Jenner and a host of others, received assistance from no one outside of the profession, and it was only after each of them had demonstrated the truth of his researches that general sentiment acknowledged their heroic work. However, as the value of these researches became known and as the number of men who were willing to sacrifice their time in these researches increased, then did the people recognize and further medical investigation. It is quite proper that this should be as it was; namely, that the benefits of the individual researches should be definitely proved before a further demand was made for increased facilities for work. But the brief period which has elapsed in which the untrained mind has permitted itself to become familiar with research, some demanding a lifetime of study, has been insufficient to allow a proper appreciation of this work and the public should not demand so much as to hamper in any way the progress of investigations already begun. Unfortunately such has been the attitude of some who, I fear, fall into the category of the "uninformed."

It would seem superfluous to discuss the value of certain animal experiments that are carried on for the purpose of throwing new light upon old diseases, or that are used for the purpose of making a diagnosis in individual cases. This subject is so timeworn that I fear much that I will have to say is a mere reiteration of a story that has ofttimes been repeated. Particularly is this true as the medical profession has, of recent years, had seriously to discuss and to advance arguments to illustrate their sincerity in the value of these experiments and in the benefits which they confer upon humanity at large.

Too often has this subject been discussed under the term "vivisection." The very character of the word has led to many misconceptions, so that he who is smooth of tongue can paint word pictures which will startle the innocent. There are probably none with us to-day who have not shuddered at paragraphs of description illustrating the torture of animals in days gone by, or of semireligious festivals at which animal sacrifices were offered. Even the human was in fear of the application of these cruel methods, which in ignorance and superstition were applied to one to save or soothe the ills of a more influential individual.

We are, however, to-day extremely proud that mankind, particularly through the efforts of the medical profession, has advanced beyond the stage of superstition and has a mind of the inquisitive type, wishing to know the why and wherefore of every process in nature. Instead of assuming that frame of mind, fearing to trespass on holy ground, fearing to meddle with nature's works, and even be denounced when such was done, we are willing to-day to sacrifice those conscious comforts where "ignorance is bliss," to labor in untrodden fields and to uncover many of nature's mysteries. We repeat, that we are proud of the attitude assumed in medicine to-day, that she is assisting to lift the veil, particularly to disclose the dangers which have confronted human life as well as the welfare of all animals.

To-day man is the keeper of everything living; upon him depends what formerly was discussed under the survival of the fittest. Though in the wild and untamed world the survival of the fittest is dependent upon brute force as well as keenness of intrigue, to-day man in the civilized portions of the globe must bear the onus of responsibility for the preservation of life. Things are changing and many of these changes are the result of the work of man. Just as with the advance of civilization, and the development of the biological sciences there has been an enormous growth in the population of all countries, so must the very face of the world change. But with this advance man must encounter, continuously, new features which are to govern his future as well as that of everything living. It is with the knowledge of this progress in the past that every means is utilized to improve the conditions for the survival of the fittest in the future.

The advances which we to-day claim are not alone in one science, but enormous strides are being made in every science, industry and art. The eagerness for the advance of each is so great that no one science can afford to lag behind another. Scientific advances are made only by receiving assistance from ancillary subjects, and so medicine can advance only with a thorough knowledge of biology, chemistry, physics and the allied departments.

More than two thousand years ago the monarchs of India and China, fearing the plotting of their subjects, dreaded death by poisoning. Particular individuals, therefore were charged to test the foodstuffs by feeding them to animals. These were probably some of the earliest procedures in which animals were used for the determination of a certain fact. For the kings it was a legitimate procedure to which they felt nobody could object. Some centuries later more pointed experiments were undertaken to determine the character of certain vegetable poisons as well as to obtain some knowledge as to the strength with which they could be administered. However, in those ancient times too great a relation between the action of poisonous drugs and the temper of the gods was given, so that the experiments were not disclosed in the proper light. The idiosyncrasy to the action of drugs was a process of fate or due to an external influence of demons rather than to altered inherent qualities of the individual. Thus being persuaded by hallowed myths, the experimenters themselves were unable to draw proper conclusions.

And so time passed on through centuries from Hippocrates, to Galen, Avicenna and Celsus down to the seventeenth century, when a new light began to dawn in the history of medicine. Actual observations on all matters of science were then recorded and the sequence of the processes in the natural phenomena were appreciated. It could be but a short time from the beginning of such truthful observations that the value and relation of each fact to the general principles of the science were given their proper weight. Every science, like a child, passes through three stages in the history of its development. In the first stage, observations are made very much at random and without any thought of their value or consequences. This in medicine is the empirical stage. Later on these facts are brought together in an orderly manner and the general findings are compared. Not uncommonly it will be found that the results of these observations indicate a common principle governing the process upon which the observations have been made. Then we enter upon the second stage. Now in the ordinary course of events, the first and second stages are deemed by many as being quite sufficient to establish laws, and though this is true, in so far as these observers are willing to go, the consecutive observations upon phenomena of disease, in the natural course of events, are difficult to obtain, are impossible to control, and unseen factors can not be properly gauged. It is quite impossible to state how much this or that factor, in a given process, has played in bringing about a given result. Therefore, it is necessary to have some means by which we can weigh each part of a reaction and each part of a phenomenon. There is but one way to carry this out and that is to put each factor to test.

Science has waited a long time for this third stage, the stage of experimentation. In this, each observation which has been carefully recorded in the first stage and has been assembled in the second stage is put to test and the weight of each ingredient is given its proper scale. No longer does the observer depend upon impressions which he has received in his natural observations, but each idea must be replaced by fact.

These three stages of growth are plainly evident in the science of medicine. Unfortunately, however, the first two stages are intermingled with so much mysticism, that we are unable to place much reliance on many of the observations. Unanswerable phenomena lead to much speculation which with the imaginative mind leads us far astray from the truth of the phenomena and the observation.

Up to the middle of the nineteenth century there reigned the greatest empiricism. During the latter part of this period much headway was made to classify observations and to indicate facts. Close relations between different processes were recognized and interpretation of these observations was attempted. With the eagerness of collecting truthful observations there also began the antecedent to experiment,—reflection. With due reflection facts become correlated into hypotheses and the truth of hypothesis rests in experimentation.

Little do we realize the advances that have been made since the hypotheses have been put to test. Questions in the biologic sciences can only be tested in their natural relation in the living body. It is only about sixty years since investigators have appreciated that to place their hypotheses quite beyond the reach of destructive criticism, each factor associated with the phenomenon under discussion must be tested out. The test of the living cell can not be made by mixing inert fluids and we are brought face to face with the problem of the materials in which questions of human life are to be tested.

Too often is the opinion expressed that the practical physician and the laboratory man occupy two distant fields. This should not be true. In fact, we welcome and admire those who are able to combine the two under the same roof. The one is but the assistant of the other and upon the second does the former place his hopes for his better work amidst humanity. Want of time is the greatest factor tending to divorce these mutual interests.

The reiteration of the benefits which mankind has obtained since the discoveries of Jenner a hundred years ago, is almost unnecessary. To recount the many applications of animal experimentation which has placed in your hand an instrument by which you are able to cope with disease would occupy a long time. Many in carrying out their missions of dealing with the sick are forgetful for the moment of the struggles by laboratory workers which made it possible for them to make a diagnosis and to carry out a successful treatment. Many of these discoveries could only have been made by the use of animal experimentation to prove the final point in the determination of the etiologic factor of disease. The character of these men who have worked and slaved in the laboratories, who have attempted, sometimes successfully, at other times without avail, to prove the *causa morbi*, can be read in the tragic histories of Reed, Lazear, Dutton, Ricketts, and others, each of whom offered his life, a sacrifice to science.

With the information that is now at hand we wonder that more did not perish in the early days of bacteriology. It is probable that over three quarters of the cases of ill health and disease which are treated by the internists are either the direct or indirect result of bacterial invasion. We well know the scorn with which Pasteur's inferences of the bacterial nature of certain diseases were received in the early sixties. We to-day would not have even this information had he not been successful, particularly with the later assistance of Koch, in reproducing the same diseases by the inoculation of pure cultures of bacteria.

The work of Ehrlich, Yersin, Kitasato, and Roux is too frequently neglected when in our daily work we are treating patients with antitoxin and other sera. The value of these need not be discussed, for if we gauge the importance of their discoveries in the terms of diphtheritic antitoxin alone, it is impossible to estimate the value in human life. There are, however, examples which are better gauged in money value. The causative agent of anthrax, black leg, swine plague, glanders, and actinomycosis was for centuries in question, and only after the proof by animal experimentation of the direct relationship of certain microörganisms to these diseases was established, has the government instituted hygienic measures, which in this country alone saves us millions of dollars annually. And all this information was received only by proof in animal experiments.

The relation of the pneumococcus to pneumonia, the meningococcus to meningitis, the *Spirochaeta pallida* to syphilis, and many other organisms to definite forms of human ills, have been and can only be determined by reproducing the disease as demanded by Koch's third postulate.

In particular has bacteriology been a fertile field in which the value of animal experimentation is very patent. In pathology proper, new fields have recently been demonstrated in which the comparative study of human diseases in experimentally produced lesions has been of greatest value. The etiological factors of nephritis have always been a source of polemic controversy since the days of Bright. These to-day are disclosing their nature and it is probable that in but a short time all will be as an open book. Studies in edema and heart diseases have likewise been vexed fields of discussion. Here, too, we can indicate that the knowledge which we do possess has been obtained by means of studying fact after fact, factor upon factor, and obtaining our actual observations where we can control them, in living tissue.

I hold no brief for the carrying on of promiscuous animal experimentation in any science. It is evident, however, that progress can only be obtained by the demonstration of truth and the truth of living tissue lies in those tissues themselves.

DISCUSSION.

Dr. J. E. Sweet, Philadelphia: In order to have a real discussion of the subject it is necessary that there be some one to represent the other side. I could have suggested the names of several Philadelphia ladies who would have added more variety than can I because I am so thoroughly in accord with all that Dr. Klotz has said. There can be to my mind no question at all of the value of animal experimentation. Your president in his masterly review of the progress of medicine in the last fifty years gave an outline of what medicine owes to animal experimentation. The whole of this great development in medicine can be traced back to the four postulates laid down by Robert Koch: To prove that a suspected organism is the cause of a given disease, one must first find it in every case of that disease; (2) the body fluids or tissues from this patient must cause the disease when introduced into the body of a susceptible animal; (3) the organism must be recovered in pure culture from the body of the animal: and (4) this pure culture must again reproduce the disease when injected into another animal. Two of these fundamental requirements demand an animal experiment, and there is no other way. Without these experiments bacteriology would have become merely a branch of botany, and not the corner stone of modern medicine. It is not only what we have learned but it seems to me that the things we do not know form an even more powerful argument for animal experimentation—infantile paralysis, cancer—what are we going to do about it? It may seem strange that laboratory men are here to plead for the cause of animal experimentation; we are here to-day because of criticism, criticism on the part of the public and on the part of the profession. The criticism of the public is due to a lack of knowledge, the criticism from the profession is due to thoughtlessness. I have heard the criticism that animals are wasted in animal experimentation. Now in the Commonwealth of Pennsylvania there are destroyed in the public pounds yearly probably twenty-five to thirty thousand dogs for no purpose whatever except to get rid of them. So long then as there is so much material being uselessly destroyed I hold that any teacher of physiology or pharmacology, who believes that he can teach his students anything whatever by the use of these animals, is entitled to his belief without criticism. It is not a question of a waste of animal life, it is purely a question of pedagogics. Another criticism which I have sometimes heard is that a good deal of animal experimentation is foolish. In reply to that I would beg to point out that he among you who has not at the autopsy table discovered that his line of reasoning, both as regards diagnosis and as regards treatment, was perfectly foolish, must either have been peculiarly fortunate, or else he must be extremely young.

Dr. Nathaniel Ginsburg, Philadelphia: It is important to educate the general laity as to the necessity of carrying on this work. Most of the papers dealing with this subject have appeared in the medical journals. People should know that this type of investigation is conducted by trained scientists without useless sacrifice of animal life, and also with the administration of anesthetics to alleviate any possible suffering on the part of the animals employed for the investigations. Appreciating this fact and the absolute necessity for the existence of properly supervised and conducted animal experimentation, the public will realize that pictures and literature showing horribly mutilated animals, operated on without an anesthetic, do not honestly portray the facts as they exist.

Dr. James D. Heard, Pittsburgh: If we wish to educate the people, we must as individual physicians be awake to the danger of the present situation in regard to a continuance of animal experimentation. How many men know the difficulty that now exists in regard to obtaining animals for the purpose of scientific investigation? How many men know that the majority of animals which should be available for medical research never reach the laboratory, but are merely killed without having served any useful purpose? Every physician should actively engage in a campaign of public education, and in order to do this efficiently, he must first inform himself of the manner in which laboratory investigators are hampered in their endeavor to procure material, and of the probability that future bills may be introduced which may aim to further hamper them in their scientific work. We must, as physicians, use our influence with our own clientele and with legislators, and if called upon by the Committee on the Defense of Medical Research we must hold ourselves in readiness to go to Harrisburg in order that we may use such influence as we possess toward the defeat of pernicious bills and toward supporting such bills as are favored by our profession. No man should regard himself as so occupied with his personal affairs as to be unable to respond to such a call.

Dr. George R. Moffitt, Harrisburg: Every one knows the position which *Life* takes upon this question, and this publication is certainly a power in this country. It seems to me, therefore, that well-directed means to educate the editors of that paper would be of value.

Dr. Klotz, closing: I should like to add just a word to what has been brought out in the discussion, and impress upon you that it is important that every one of us in the medical profession must feel deeply interested in this subject. We should familiarize ourselves with the truth of the value of animal experimentation, and be ready at all times to become foci of dissemination of this truth to the public

NOT FROM MONKEY, SAYS CARREL.

"Many men have for years contended that the similarity in the construction of the monkey and man was proof sufficient as to the origin of the latter. Physiological science, however, does not deduct that way. This standard regards the formation and similarity of the various tissues and glands, their natural length of life and their ability to thrive when transferred to the opposite being, as the fundamental basis for comparison. This being accepted as the true standard for reasoning, then most assuredly man never had an ape or an orang-outang as a prehistoric ancestor."—Dr. Alexis Carrel.

PROCTOCLYSIS AS A CURATIVE AND PROPHYLACTIC AGENT IN PRIMARY AND SECONDARY ACUTE NEPHRITIS IN CHILDREN.

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The purpose of this presentation in general is to provide material for the discussion of the treatment of acute primary and secondary nephritis as it occurs in children, and in particular to determine, if possible, whether the rôle which sodium chlorid plays in this therapy be benignant or malignant. At the outset be it emphasized that the conclusions herein recorded were reached purely from clinical observations, the writer being in ignorance of any experimental work that had been done in this connection until after he had treated his patients and his attention had been called by a colleague to the investigations, especially of Martin H. Fischer. It should be further stated that, while the data furnished relate to but three cases of nephritis, two cases of typhoid fever, three of scarlet fever, and one of infantile dysentery, the results in each instance were so strikingly uniform and identical that one can not escape the conviction that they appear to be more than coincidental, and to depend upon definite biochemical phenomena, which were determined by the physiologic activity of the therapeutic agent employed.

The results usually obtained in the treatment of nephritis in children are unsatisfactory. In most instances, symptoms, both objective and subjective, may be made to disappear, only to return in a milder form perhaps, leaving the patient in an uncertain state of health, the fear of a relapse being ever present. The reason for this is that attempts are continuously made to treat the nephritis and not the underlying cause. Thus are administered diuretics, the purpose of which is to stimulate an already irritated and inflamed organ. It is just as reasonable to expect that exercise will relieve the pain of an inflamed muscle or joint as to rely upon stimulating diuretics to cause a nephritic kidney to secrete more urine. The ideal diuretic is that which is directed toward the cause of the nephritis and augments diuresis by causing the nephritis to disappear, *i. e.*, which causes the kidney to become normal again, because the etiologic agent is removed or its malign effect is destroyed.

What may the etiologic factor or factors be and what may be the agent or agents that will nullify the nephritis and permit the kidney to functionate properly? The indirect or remote causal elements may be many and varied in each particular instance. Thus may we nominate the acute infectious exanthemata, infectious throat conditions, intestinal inflammation and putrefactive and fermentative changes in the intestinal contents, burns, acute inflammatory rheumatism, acute and chronic valvular heart disease and conditions causing interference with the proper aëration of the blood resulting in more or less carbondioxid retention—in a word, in asphyxia. In all these diseases the active or determining factor of the nephritis is the addition of some substance or substances (toxins) to the blood which so alter the normal state of tissue neutrality or alkalinity as to permit changes to occur in the kidney substance. The toxin, while it may differ in many of its chemical and physical characteristics, is identical, in all instances, as to its chemical reaction, as witness the fact that in acute nephritis the urine is sharply acid even though it be filled with blood elements. This state of kidney acidosis Fischer believes to be the responsible cause for the nephritis in every case and it appears that his experimental work furnishes abundant verification for this view, which is further sustained (in so far, at least, as it relates to the beneficent effect of sodium chlorid) by the clinical results obtained in my cases. In his experiments, ingenious beyond peradventure, Fischer made use of powdered fibrin and of gelatin, both examples of gelatinous colloids, substances identical in nature to the tissue of which the kidney is composed. By simple methods he had proved that a gelatinous colloid, insoluble in distilled water, will be made to absorb water and to go into solution or become a soluble colloid by the mere addition of a small amount of acid, and that the greater the concentration of the acid, up to a certain point the greater will be the amount of the gelatinous colloid to be dissolved and the greater will be its ability to absorb moisture. He demonstrated that the addition of a neutral salt, of which sodium chlorid is a conspicuous example of a salt of a monovalent ion, to the acid solution will inhibit the action of the latter in causing the gelatinous colloids to absorb water and to become soluble ones, and that this inhibition is greater the greater the concentration of the salts, and that salts of bivalent ions exceed the monovalent ones in their inhibitory powers and that these again are exceeded by the salts of trivalent ions. Further, Fischer proves that if the neutral salt solution be of the proper strength none of the gelatinous colloid will be dissolved. His experiments appear rationally to account for the origin of the albumin from the kidney substance itself, which, as stated before, consists of gelatinous colloid substance which, in the presence of the normal alkaline state of the kidney, remains intact, absorbing neither an excess of fluid nor going into solution, but in the presence of an excess of acid in the kidney absorbs water and is changed into a soluble colloid, being found in the urine as albumin. Thus, is disproved the theory of the origin of albumin from the blood by means of osmosis through a diseased membrane which Fischer pointedly says has never been demonstrated. Also is provided sufficient data to account for the swelling of the kidney in nephritis and the occurrence of general edema which, as depending upon tissue acidosis, is further supported by Fischer's experiments upon the ligated legs of frogs.[1]

By argument and experimentation Fischer is further able, to his own satisfaction at least, to account for all the other morbid changes, including casts, present in the kidney undergoing a nephritis, as depending upon kidney acidosis and that these changes may be prevented or eliminated by overcoming this acidosis by the use of alkalies and neutral salts, of which sodium chlorid is one of the most valuable, and all this in spite of the almost universal stand of the recent workers in metabolism that not only is chlorid of soda of no use in the treatment of nephritis, but is positively injurious, being productive of further irritation and edema, the condition for which Fischer practically offers it as a cure. His experiments upon rabbits, in which he first produced a nephritis by the intravenous injection of an acid and then caused it to disappear by the injection of a concentrated sodium chlorid solution, seem to sustain his views and is borne out by my own clinical results. We have heard much of the value of the salt-free diet which I must confess, in my hands and in the hands of many of my colleagues to whom I have spoken, has been of no value whatever.

My purpose in thus elaborating upon the theory of the nature and cause of nephritis and edema as promulgated by Fischer is to emphasize that whether rightly or wrongly, and there are those who do not agree with Fischer, the results which I obtained by the continuous administration of sodium chlorid solution by proctoclysis over a period of weeks tend to confirm his views with the exception that in my cases the large amount of water absorbed and handled by the kidneys was beneficial, as well as the sodium chlorid, although Fischer names acute nephritis as the only condition in which large quantities of water may do harm on account of the great swelling of the kidney causing the capsule to press upon the blood vessels to the further impairment of an already damaged organ. The water, however, dilutes the toxin and thereby lessens kidney acidosis, and consequent swelling and solution of the gelatinous colloid substance. In this way the albuminuria and the kidney swelling may be expected to be steadily diminished. As a matter of fact this will be seen to be exactly what occurs. A. B. Moore[2] takes issue with the theory of Fischer and seeks by experiment to disprove it. Whatever the value of his contensions may be from a purely scientific standpoint, my clinical experience does not permit me to coincide with his view that the teachings of Fischer, especially with reference to edema, are pernicious and dangerous.

It is interesting in this connection to note that in not any of my cases did edema, other than slight puffiness of the eyes, develop, and this speedily passed away after treatment was instituted, and that all the signs of nephritis were made to disappear. All of the patients received enormous amounts of chlorid of soda over a long period of time, the daily dose ranging between 180 to 300 grains. Whether all this was absorbed, of course, is problematical, but in view of the fact that marked diuresis was at once established and that very little of the fluid was expelled from the rectum, it seems reasonable to suppose that at least a considerable quantity found its way in and out of the body.

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[1] M. H. Fischer: Nature and Cause of Edema, *Jour. A. M. A.*, Sept. 5, 1908, p. 830; also Nephritis, by M. H. Fischer.

[2] *Jour. A. M. A.*, Aug. 10, 1912; also *Univ. of Cal. Pub. Physiol.*, 1912, iv., 111.

The apparatus required to administer proctoclysis to children need be neither expensive nor of elaborate design. The only essentials are that the fluid be received into the rectum at or a little above body temperature and that the flow be accurately regulated from twenty to not more than thirty drops being delivered per minute. The apparatus employed at the Jewish Hospital consists of a graduated glass container holding at least two pints and is supported in a specially constructed wooden box which provides room for three or more hot water bottles, the purpose of which is to keep the salt solution at about 110° F. From the container runs rubber tubing which terminates in a specially devised glass delivery tube for insertion into the rectum or is connected by means of a piece of straight glass tubing to a soft rubber catheter about No. 14 to 16 French. This is inserted into the bowel for about six to eight inches after a cleansing enema and after the flow of the fluid is properly regulated. The rubber tubing connecting the delivery nozzle or catheter should be sufficiently long so as not to interfere with the motion of the child about the bed. I have experienced no difficulty in most instances in retaining the tube in place and have succeeded in winning the coöperation of my little patients by amusing them with the idea that they were "growing a tail." Of course in very obstreperous or fearsome children it has been impossible to prosecute the treatment.

Case 1. E. W., male, school boy, was first seen in consultation. At this time he had been ill with scarlet fever for some two weeks, being the third member of the family to take the disease. The boy was gravely ill, being markedly septic. His temperature was high, both ears were discharging, conjunctivitis was present in both eyes, which were closed from enormous inflammatory swelling of the upper lids and were discharging a thick creamy excretion. The glands of the neck were enormously swollen and the mouth was septic. The child was delirious; pulse, rapid and irregular; the urine scanty, high-colored and contained a large amount of albumin, hyaline and granular casts and blood. It was sharply acid. Treatment consisted of milk diet, careful and thorough antiseptic toilet of the nose, throat, mouth and ears. Cold compresses were applied to the eyes, alkalies were given by mouth, strychnin hypodermatically, and one to two hot packs daily. He was made to drink water and lemonade containing a dram of cream of tartar to the ounce. Proctoclysis was at once instituted and continued uninterruptedly for two weeks. During this time he received and absorbed an average of from three and one half to five pints of normal saline solution (one dram of NaCl to the pint of water). This represented from 180 to 300 grains of sodium chlorid a day, or from 2520 grains to 4200 grains throughout the two weeks. The boy made a good recovery and was discharged in good condition, save for some cardiac arhythmia.

On April 1, 1912, four weeks after his discharge, he was again taken suddenly ill with fever of 104° F., headache, nausea, drowsiness and intermittent delirium. He complained of intense pain in the right ear and there was tenderness over the mastoid; his eyelids were slightly edematous, his urine again revealed all the features of an acute hemorrhagic nephritis. He was transferred to my service at the Jewish Hospital. Blood examination showed hemoglobin 50 per cent.; red cells, 4,800,000; whites,4100; large lymphocytes, 4 per cent.; small lymphocytes, 15 per cent.; polymorphoneuclears, 75 per cent.; eosinophiles, 1 per cent.; transitional, 5 per cent. Urinalysis showed a dark urine having a smoky appearance, markedly acid, specific gravity 1,031, and containing an abundant granular sediment, 3½ per cent. albumin, by Esbach and many white and red cells and an abundance of hyaline and granular casts with epithelium and amorphous urates. He was at once placed upon proctoclysis with normal salt solution, given two hot packs a day and, by mouth, plenty of water and lemonade containing cream of tartar. Alkalies were also administered. Three days after admission Dr. S. MacCuen Smith performed a radical mastoid operation. The boy made an uneventful recovery and was discharged from the hospital cured twenty-eight days after admission. The record of the amount of urine voided and the percentages of albumin found in the urine follows:—

Date.	Amt. of Urine Voided.	Albumin Percentage by Esbach.
April 1, 1912,	10 ounces	3½
April 2, 1912,	27 ounces	3
April 3, 1912,	32 ounces	2¼
April 4, 1912,	35 ounces	1½
April 5, 1912,	36 ounces	1½
April 6, 1912,	42 ounces	1¼
April 7, 1912,	47 ounces	1¼ minus
April 8, 1912,	46 ounces	1
April 9, 1912,	48 ounces	½
April 10, 1912,	52 ounces	.75
April 11, 1912,	60 ounces	.25
April 12, 1912,	66 ounces	⅛
April 13, 1912,	67½ ounces	⅛
April 14, 1912,	73 ounces	Trace
April 15, 1912,	76 ounces	Trace
April 16, 1912,	76 ounces	Trace
April 17, 1912,	82 ounces	Trace
April 19, 1912,	75 ounces	Negative
April 20, 1912,	78 ounces	Negative
April 22, 1912,	74 ounces	Negative
April 24, 1912,	76 ounces	Negative
April 26, 1912,	72 ounces	Negative
April 28, 1912,	79 ounces	Negative

Case 2. L. H., male, aged seven, is the younger of two brothers brought up under the most careful hygienic surroundings and living under a sensibly supervised daily routine. The elder brother was taken with scarlet fever in his suburban home. L. H. was at once removed, on the day the diagnosis was made, to an apartment-house hotel in Philadelphia. Here he continued well for two and a half weeks, when he was taken ill. His previous medical history records measles at one year, varicella, enterocolitis and an attack of acute Bright's disease two and one half years before, for which he was treated by Starr and from which he is said to have made a perfect recovery. A significant fact in this attack was that the boy's entire body became edematous. His legs and feet swelled to such an extent that it was impossible to wear shoes, and a ring had to be cut from his finger. This state of edema stands out in bold contrast to its absence in his second attack to be recorded. Since his first attack of Bright's disease his urine has been constantly supervised, and the last examination, made within a month of the onset of this illness, is said to have been negative. At this time he was suffering from an attack diagnosed as acute intestinal indigestion. I found him in bed complaining of headache and nausea, he had vomited once or twice, there was a painful tender lump under the right angle of the jaw which corresponded to the situation of the lymphatic node. There was some slight dysphagia, but examination of the throat revealed no acute inflammatory process, only the presence of enlarged tonsils and adenoids. The bowels had not moved, temperature was 101° F., pulse 100. The tongue was coated and the lower eyelids presented slight edema. The countenance was dull. No rashes were present and none subsequently developed. A specimen of urine examined presented a chocolate red appearance, gave a sharply acid reaction, contained enough sediment to fill a three-ounce bottle one-quarter full. There was 4½ per cent. of albumin as estimated by the Esbach instrument. In addition there were present leukocytes; myriads of red cells, the drop of urine appearing not unlike a drop of blood diluted with salt solution; hyaline and granular casts in abundance, and many amorphous urates and tissue detriti.

The bowels were opened by enema and citrate of magnesia, preceded by one twentieth of a grain doses of calomel placed dry upon the tongue every twenty minutes to control nausea. Magnesium sulphate, ten grains, was given every four hours for its laxative and antacid effect. An abundance of water and lemonade, containing one dram of cream of tartar to the pint, was given. One hot pack a day was ordered and proctoclysis with normal salt solution was at once instituted. Three days after the lad was taken ill I was honored by having associated with me the distinguished president of this society, Dr. James Tyson, who saw the boy's urine at the beginning and to whom I presented a sample of urine for analysis a month or so after the lad's recovery. Dr. Tyson saw the boy four or five times and was so pleased with the result that he voluntarily discontinued his visits. He is therefore in a position to verify the facts as here reported. The boy received from three and one half to five pints of normal saline solution per rectum per day. All the objective and subjective features of a nephritis disappeared, and throughout the course of his illness, even while the urine still contained albumin and casts, there was a marked absence of toxic symptoms and a total absence of edema. I wish again to emphasize this fact in connection with the use of sodium chlorid in large amounts, comparing it to the intense edema from which he suffered during his first attack and during which proctoclysis with salt solution was not employed. The following table details the percentage of albumin and the daily quantity of urine voided. A complete record is not given on account of its length, although daily examinations were made.

Date.	Amt. of Urine Voided.	Albumin Percentage by Esbach.
April 3, 1912,	4 ounces	4½
April 4, 1912,	25 ounces	3½
April 5, 1912,	25 ounces	3½
April 6, 1912,	27 ounces	3½
April 7, 1912,	37 ounces	3
April 8, 1912,	46½ ounces	3
April 9, 1912,	52 ounces	1½
April 10, 1912,	63 ounces	1½ minus
April 11, 1912,	60 ounces	1
April 12, 1912,	62 ounces	1 minus
April 13, 1912,	68 ounces	½ minus
April 14, 1912,	68 ounces	½ plus
April 15, 1912,	69 ounces	½ minus
April 16, 1912,	72 ounces	¼ plus
April 17, 1912,	71 ounces	¼ minus
April 18, 1912,	70 ounces	¼
April 19, 1912,	72 ounces	*⅛ minus
April 20, 1912,	80 ounces	*Trace
April 21, 1912,	85 ounces	*Trace
April 22, 1912,	86 ounces	*Trace plus
April 23, 1912,	90 ounces	Negative
April 24, 1912,	98 ounces	Negative
April 25, 1912,	101 ounces	Negative
April 26, 1912,	98 ounces	Negative

*Negative by contact and heat and acid.

A glance at this record will scarcely permit the opinion that chlorid of sodium is conducive to water retention.

Case 3. L. S., male, aged six, breast fed, with a history of measles at one year, pertussis at three, was ill about one week when first seen. There were headache and vomiting during the past week, indisposition to play and to eat, bowels constipated, tongue coated, temperature 104½° F., pulse 110, respirations 22, belly somewhat tympanitic, spleen palpable. Blood examination showed a slight leukopenia, otherwise negative. Widal reaction was positive. The urine contained neither albumin nor sugar. Diazo reaction was positive. Diagnosis was typhoid fever.

Treatment: Initial calomel purge; milk diet; sponging; general hygienic care; dilute hydrochloric acid, ten drops after milk; proctoclysis of normal salt solution for two weeks. No urinary symptoms developed and toxemia throughout the attack was not marked. Patient made uneventful recovery.

Case 4. A. S., aged three years, brother of L. S., was taken sick at the same time. Diagnosis was typhoid fever. He had similar treatment and proctoclysis. Toxemic symptoms after first three days were absent. No kidney complications occurred. Recovery.

Case 5. A. L., aged ten, female, had had measles, varicella and pertussis. She was seen April 8, 1912, when she complained of sore throat, headache and chilly sensations, and vomited. Temperature was 103½° F.; pulse, 140; respirations, 26. Tonsils and faucial pillars red and the former showed follicular involvement. Buccal and palatal mucous membranes were injected. April 9, symptoms were the same; intense scarlatinal punctiform erythema overlaid arms and trunk; perioral pallor was present. Diagnosis was scarlatina.

Treatment: Toilet of the nose and throat; milk diet; occasional laxative; inunctions of cocoa butter; water and lemonade containing cream of tartar, and at times orange juice and potassium acetate, fifteen grains every three hours by mouth. Proctoclysis of normal salt solution was continued after the first week for three weeks. Urinalyses were conducted daily. Albumin appeared at no time.

Case 6. M. M., female, aged eight years, gave a protocol practically the same as in Case 5. Diagnosis: Scarlatina. Treatment was similar and proctoclysis with normal salt solution was continued for eighteen days. No kidney lesions developed.

Case 7. G. W., male, aged fourteen years, had intense scarlet fever. Albuminuria was present from the beginning. Urine was dark, acid and scanty. Cerebral symptoms were delirium and stupor. Temperature was 106° F.; pulse, 180; respirations, 30. Hot packs were used and he was given potassium acetate by mouth; abundance of water and lemonade with cream of tartar; laxatives; small doses of bromid of soda. Proctoclysis with sodium chlorid solution from the second day of treatment was continued more or less uninterruptedly for thirty-two days. Albuminuria disappeared by the end of the first week. Urinary flow was reestablished, the kidney secreting as high as seventy-five ounces by the ninth day. He received from two to three pints of NaCl a day per rectum. Recovery. No further kidney complications developed.

Case 8. E. S., female, aged eighteen months, was treated in 1908 at the Jewish Seaside Home, Atlantic City, for intestinal intoxication (dysentery, twelve to twenty movements a day containing blood and mucus). There was intense systemic toxemia, the child lying in a comatose state for days. Vomiting was frequent. Emaciation was rapid and extreme. Urine could not be collected, but was seldom passed, causing the infant to cry and staining the napkin. In this case, besides the ordinary dietetic measures, a single stomach washing, antidysenteric serum, hypodermoclysis of three ounces of normal salt solution were given. Proctoclysis was continued interruptedly for ten days. The child gradually improved and left the institution well. This was the first case I treated by proctoclysis and the good result, while not attributed to this alone, so impressed me that it determined me to make use of this means of treatment in the future.

Basing my views entirely upon the results obtained in the two cases of nephritis, the two cases of typhoid fever, the three of scarlatina and one of intestinal intoxication, I would venture the following tentative conclusions to be verified or discredited as future opportunity will permit a further trial of this treatment:—

1. Sodium chlorid does not increase water retention in nephritis.

2. Sodium chlorid inhibits the action of the toxic agent (acid) producing the nephritis from causing the gelatinous colloid substance of the kidney to absorbing water and to go into solution, this being the source of the albumin in nephritis. The amount of the latter is continuously decreased and finally disappears as the strength of the chlorid is increased.

3. Alkalies assist the action of the neutral salts.

4. All the other symptoms of acute nephritis, the edema, the urinary findings and the subjective features can be made to disappear or are prevented by a combination of alkalies and sodium chlorid.

5. An acute nephritis is benefited by the administration of large amounts of water.

6. A convenient way of administering sodium chlorid is by proctoclysis, or in emergency it may be given by hypodermoclysis or by intravenous injection.

7. An advantage of proctoclysis not to be despised is the large amount of water absorbed and which during elimination helps to reduce the kidney acidosis.

8. Edema is no contraindication to the use of sodium chlorid in nephritis. If used sufficiently early it would appear to prevent its occurrence and if present assists in causing its disappearance.

9. In the treatment of the acute infectious diseases and toxemic states, and before and after ether anesthesia it is recommended to place the patient upon continuous or intermittent proctoclysis with normal saline solution as the urgency of the case may require, together with the administration of alkalies with the desire to prevent the occurrence of nephritis.

10. Lastly it would appear that Fischer's theory of the nature and cause of nephritis and edema and the harmlessness, as well as the usefulness of sodium chlorid, finds verification in the protocols of the cases herewith submitted.

OCCUPATIONAL DISEASES OF THE SKIN, EXCLUSIVE OF THE SO-CALLED TRADE ECZEMAS.

BY FRANK CROZER KNOWLES, M.D.,
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(Read in the Section on Medicine of the Medical Society of the State of Pennsylvania, Scranton Session, September 26, 1912.)

In the latter part of May of the present year the writer presented a paper, "The External Etiology of Eczema," before the American Dermatological Association. Preparatory to the writing of the St. Louis paper 24,459 cases of diseases of the skin, which had been observed by the author, were reviewed, and of this number 4142 had been diagnosed as eczema. Six hundred and seventy-nine of those tabulated as eczema were found to have been occasioned by occupation.

In the present monograph the various occupational diseases of the skin will be discussed, excluding those of the eczematous type, the latter having been thoroughly covered in the paper previously mentioned. The recorded statistics show how frequently the trade of the individual is deleterious to the skin. Although the great majority of trade diseases exhibit an eczematous outbreak or an acute dermatitis, a goodly number of very diverse types remain to be described. It is really surprising in carefully reviewing the subject to see how many different occupations are prone to produce some form of eruption on the skin.

Workers in the various chemical industries are very apt to show trade changes in the skin. In the manufacture of chlorid of calcium, also chlorid of sodium and potassium by electrolysis, a peculiar outbreak is noted upon the face of the workmen. A crop of acne spots is observed and there is redness and edema. The eruption may last in the neighborhood of two weeks and disappear, with the exception of a few hard nodules and comedones which remain. The tetrachlorid of quinon is probably responsible for the outbreak.

Photographers because of the metol, monomethylparamidophenolsulphate, used in the developing work are at times attacked on the arms by an erysipelas-like outbreak.

Arsenic acts as an irritant to the skin, producing ulceration. This drug is the cause of changes in the skin in many trades. It has been used extensively as a coloring agent for wall papers and artificial flowers. It is an ingredient of the "sheep-dip" which is sold to kill tic in sheep. In the form of green arsenite or Scheele's green, it is used as a pigment. Individuals employed in the making of this latter preparation have painful ulcers on the fingers or in the groins and on the scrotum; on the last two locations, because of the filtering in of the dust containing arsenic.

Smelters at arsenic mines may have an affection of the skin, spoken of as "arsenic pock," due to the irritating property of the very fine dust upon the perspiring skin.

Arsenic has the tendency, whether inhaled as dust or vapor, taken medicinally, or applied externally to the skin, of predisposing the tissues in some individuals to cancerous growths. Wile[1] has recently written a paper on arsenical cancer, detailing a case observed by him and referring to those of fifteen other authors. Paris[2] was the first to mention the arsenical origin of cancer. He referred to the fact that workers in the copper smelting-works and tin-burning houses at Cornwall, because of the arsenical fumes, were occasionally affected with a cancerous disease of the scrotum.

Workers in fur are very subject to inflammation of the follicles of the forearms and boil formation, also at times to ulcerations. This latter type of lesion can probably be explained because of the arsenic employed in the curing of certain furs. Out of forty-two samples of fur recently examined by American chemists, eleven were found to be heavily loaded with arsenic. This drug is also occasionally found to be present as a pigment in gloves and other textile materials.

Changes are found on making a microscopical study of the hairs of copper workers, a thin layer of coloring matter composed of bluish green crystals is discovered.

Men employed in printing upon zinc by means of chromic and phosphoric acids are noted to have abscesses and erosions of the skin of the hands, the arms, the neck and the face. Tanners are also observed to have the same type of lesions.

A "scabby" outbreak is noted upon the hands and the arms of those employed in the extraction of gold from ore by means of potassium cyanid. This condition is also noted on the arms of the silver cleaners who use this chemical.

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[1] *Jour. Cutan. Dis.*, 1912, p. 192.
[2] J. A. Paris: Pharmacologica, 1825, Vol. II., p. 70.

Electrotypers and stereotypers are more or less subject to folliculitis and boil formation.

Silver polishers and scratchbrushers are very apt to have a folliculitis and furuncle formation because of their trade, sour beer being used for cleaning purposes. So great has been this tendency that certain establishments have substituted soap bark to eradicate the tendency to the condition. Polishers and burnishers use rouge, which is made out of a combination of mercury, iron and wax. The finest rouge is used in gold burnishing, a poorer grade for silver cleaning and the least refined on the brass work. The poorer the grade of the rouge the more tendency there is for the burnisher to develop inflammation of the follicles of the arms and boil formation.

Electroplaters, according to Hall,[3] are subject to an outbreak of multiple ulcers on the hands. Electrotypers and stereotypers are subject to inflammation of the hair follicles of the forearms and boil formation.

The makers of quinon hair dyes may be subject to an erysipelas-like rash from the fumes of the preparation.

Workers in coal are observed to have changes in the integument. Coal when burned undergoes some peculiar chemical change whereby the soot that is formed becomes of an exceedingly irritating character. The follicles become choked up with soot, warty and keratotic changes are exhibited, and malignant tendency may develop. It has been suggested that the irritant in soot is arsenic, sulphurous acid or ammonia compounds. According to Dr. John Tatham, an Englishman, the comparative mortality figure for cancer among chimney sweeps between the ages of twenty-five and sixty-five years, for the three years ending 1902, was 133 as compared with sixty-three among males in other occupations. Three decades ago the mortality proportion was much higher in this class of employment, 146 as compared with forty-four in other pursuits.

Gardeners who sprinkle soot upon plants to protect them from slugs occasionally develop cancerous ulceration of the hand.

Individuals employed in the preparation of tar, paraffin and anthracene are especially prone to suffer from inflammation of the follicles of the forearms and on other portions of the cutaneous surface, and to the formation of keratoses and warty growths, tending to undergo malignant change.

Distillers of benzin and creosote suffer in a similar manner but not so frequently and usually in not such a marked degree.

Coal miners, as the result of using the pick, develop on the palm of the hands, a hard and horny condition, known as "beat-hand," caused by friction from the handle of the pick. Occasionally suppuration takes place in the deeper layers of the hard skin, called, in the nomenclature of the miner, "keens." A similar condition may occur on the knees and the elbows. Callous areas are met with in numerous trades caused by the tools or by the various positions which the workmen are compelled to assume in their handicraft.

During the distillation of such gases and products as ammonia, carbonic acid, sulphuric and sulphurous acids, and creosote, the skin is sufficiently irritated to be predisposed to the formation of warts, nodules and ulcers. Cancerous change may supervene.

Label lickers may suffer from small ulcers on the lips and the tongue, supposedly due to the fact that the colored labels contain arsenic.

Electricians because of contact with electric currents may develop burns, which are deep, irregular in contour and apt to slough. In the electric welding of metals the heat produced in the process is so intense that the skin becomes red and hot, as if acutely sunburned.

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[3] *Brit. Jour. Derm.*, June, 1901.

Molders of bricks suffer from painful and inflammatory swellings of the hands and the wrists.

Workers who are subject to intense heat are prone to have certain eruptions. Laundresses at times are noted to have a cystic condition of the sweat ducts of the face, known as hydrocystoma. Cooks, stokers, firemen, bakers, etc., are subject to outbreaks resembling prickly heat and also to inflammation of the follicles and boil formation.

Those employed in open-air occupations, such as drivers, coachmen, seamen, etc., are often subject to the more severe forms of acne rosacea. There is also a great tendency in seafaring men to develop a warty and keratotic condition of the skin of the face and the dorsum of the hands, which tends to break down into rodent ulcer or epithelioma. This is known as the sailor skin of Unna.

Wood workers are subject to various outbreaks upon the skin. Handlers of teak wood may have desquamation of the epidermis, caused by an essential oil found in the central portion of the tree, coming in contact with the skin in the form of dust. Those who work in East Indian satinwood may develop an urticarial or even a severe erysipeloid outbreak. The alkaloid chorоxylinin contained in the wood acting as the irritating cause.

Spinners of flax, according to Leloir[4] may be attacked by an urticarial outbreak. Glibert, medical factory inspector of Belgium, mentions the fact that many flax workers suffer from a peculiar abrasion and ulceration of the palmar surface of the hand, owing to the irritating effect of some of the materials in the liquid used in spinning, possibly the butyric and lactic acids.

Purdom refers to an outbreak on the skin, not unlike smallpox in appearance, which attacks the forearms and the face of those who remove the full bobbins from the spinning frames (doffers), probably resulting from the irritants handled. Callosities are met with in the hecklers, on the index finger, and are the consequence of the pressure and friction caused by pulling the flax out of the "pins" of the machinery. Many of the spinners also suffer from a painful affection of the nail of the big toe, and the contiguous skin, caused by infection from the unclean water in which the spinners stand in their bare feet.

Shoddy- and rag-sorting gives rise to acne and comedones by plugging the ducts of the sebaceous glands of the skin.

In sugar factories the individuals employed to stir the molasses, also those who work at the refining process are subject to an affection known as the "lymphangitis of sugar workers," which is accompanied or preceded by a crop of boils. Ulcerations may be present and also an eruption described by Winfield, which resembles an impetiginous scabies and attacks the hands, the forearms and legs. A mite in raw sugar is suggested by Winfield as the cause of the outbreak. According to Gaillot the lymphangitis of sugar makers is due to the *Staphylococcus pyogenes aureus*, this organism being found in the residue of molasses and not in that freshly prepared.

Ice makers and ice-cream manipulators and those working where the temperature is extremely cold are very subject to frost bite.

The pickers of daffodils, as recorded by Walsh,[5] may be subject to the formation of pustules, particularly from the plants of the narcissus tribe. The rash is more severe where the juice from the plants filters into a cut or sore on the hand.

Naturally, drug handlers are frequently noted to have an outbreak on the hands and the forearms. It will suffice to mention the exfoliative condition which may be caused by the manipulation of quinin. The exfoliation of the epidermis may be either localized to the hands and the forearms or may become of a generalized distribution.

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[4] *Annales de Derm. et Syph.*, 1885, p. 129.

[5] *Brit. Jour. Derm.*, 1910, p. 854.

Workers in tobacco leaves, when the leaves are primarily steeped in water, occasionally suffer from an outbreak of blisters on the hands.

Tea tasters are noted to have discoloration of the nails.

In the fish-curing and herring-salting trades, cuts and cellulitis of the hands and the fingers frequently develop, chiefly in the gutting process. An eruption closely resembling erysipelas is observed on the hands and the fingers of fish handlers, starting at the site of a small trauma. This affection is known as the erysipeloid of Rosenbach. Gilchrist[6] has collected a large series of these cases in anatomical workers, and in those called upon to handle dead animal matter.

Butchers and slaughter house employees are occasionally attacked with a bullous dermatitis, which may remain localized to the hands and the arms or become generalized. The latter type of cases may end fatally.

Those who are called upon in their daily avocation to be in more or less constant touch with the Röntgen rays may be attacked with warty growths on the hands and the arms, some of which tend to undergo malignant change and in a few cases have ended fatally.

Ringworm is observed in those who handle horses and cattle and the deep-seated, abscess type has not infrequently been mistaken for a carbuncle.

Anthrax is noted in those individuals who are compelled to handle hides and horse hair, particularly those in the latter industry. Cases of this affection have been observed in worsted and woolen mills, in horse-hair and bristle workers, in the handlers of hides and skins. Farmer, farm laborers, butcher and meat inspectors are at times attacked because of the handling of diseased hides. Legge reported that during the six years, 1899 to 1904, 261 cases of anthrax had been contracted in the factories and work shops of England; eighty-eight of these occurred in worsted and woolen factories, seventy in horsehair and bristle works, eighty-six among hide and skin handlers, and seventeen in other industries.

Tuberculosis of the skin may attack medical students, physicians, nurses, hospital attendants, and butchers. In fact, any one handling tuberculous material may develop a localized form of tuberculosis of the skin, known as an anatomical tubercle or verruca necrogenica. The fingers are the usual site of the lesion but the hand and forearm may also be attacked.

Glanders is seen almost exclusively in hostlers or those handling horses or asses. It is fortunately quite rare in this country. The skin and the mucous membranes each show lesions.

Actinomycosis is of rare occurrence but its development is a possibility in those who handle cattle, fodder or grain. Therefore coachmen, dairymen, millers, etc., are more prone to be attacked.

A disease has recently attracted the dermatologist, known as sporotrichosis, which is characterized by the development of subcutaneous abscesses or nodules, which may or may not break down, usually following the line of lymphatics of the forearm. In certain cases however the nodules may be scattered over the skin surface, more or less generally. The disease on the forearm usually starts with a trauma to the finger, thus allowing the entrance of the mycotic infection. The disease is met with spontaneously in horses and mules as epizoötic lymphangitis, and individuals attending these animals are subject to attack. The sporothrix has also been found on vegetables and therefore handlers of these may exhibit an outbreak.

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[6] *Jour. Cutan. Dis.*, 1904, p. 507.

Within the last few years an eruptive disease has been observed which tended to attack the extremities, the trunk and to a less extent the face, of those who handled sacks of wheat, barley, grain and straw. The eruption resembled markedly both a varicella and an urticaria, and is extremely pruritic. A small mite, the *Pediculoides ventricosus*, whose habitat is straw and grain, is the cause of the affection. Straw mattress makers, farmers and all of those who handle these products are frequently attacked by this disease. Furthermore, all those who sleep on mattresses made from straw containing the mite are subject to an outbreak.

The writer in concluding wishes to acknowledge his indebtedness to the excellent book of Dr. Thomas Oliver, Diseases of Occupation, for much material in the preparation of this paper and to make an urgent plea for more thorough treatment of occupational eruptions, particularly those of the verrucous, keratotic or ulcerative types which may be precursors of malignancy.

REPORT OF THE COMMISSION ON END RESULTS OF FRACTURES OF THE FEMUR.

BY W. L. ESTES, M.D.,
South Bethlehem.

(Read in the Section on Surgery of the Medical Society of the State of Pennsylvania, Scranton Session, September 26, 1912.)

The chairman wishes, in behalf of the commission, to make the following report:—

1. Total number of cases, 788.
2. Ages: Below ten years, 98 cases; between ten and twenty years, 67 cases; between twenty and fifty years, 138 cases; between fifty and seventy years, 56 cases; between seventy and ninety years, 13 cases; between ninety and one hundred years, 1 case; cases not mentioned, 394.
3. Occupation: Working people, 219 cases; cases not noted, 491.
4. Cause of fracture: Direct violence, 130 cases; indirect violence, 638 cases. (Some cases are not reported. Probably many reporters misunderstood.)
5. Seat of fracture: 303 cases has this noted; of these, upper third, 68 cases; middle third, 163 cases; lower third, 72 cases.
6. Kind of fractures: Simple, 732 cases; compound, 27 cases; compound comminuted, 8 cases; complicated and multiple, 12 cases.
7. Amount of shortening at time of injury (admission): Of 598 cases noted, average shortening before reduction was 1.38 inches.
8. Method of treatment: Of 440 cases noted, some form of Buck's extension, 190 cases; Scudder's splints, 24 cases; Plaster of Paris, 47 cases; long lateral splints, 34 cases; sand bags, 35 cases; Hodgens' apparatus, 3 cases; double inclined plane, 6 cases; open method, 78 cases; various forms of splint, 12 cases; no dressing, 1 case.
9. Anesthetic: Yes, 142 cases; no, 194 cases; 410 cases not noted.
10. Extension, average amount of weight used: Of 238 cases reported, 14 lbs. was the average.
11. Effects of reduction on shortening as determined by measurements:—Recorded in only a few cases.
12. Amount of shortening: After reduction, average 1 inch; first change of dressing, ¾ inch; at end of treatment, ½ inch.
13. Length of time patient in bed: Of 322 cases reported, average a fraction less than 8.2 weeks.
14. Length of time patient absent from work: Of 212 cases reported, average a fraction less than 2.7 months.
15. Length of time crutches, canes or other aids in walking were used: Of 207 cases reported, average a fraction less than 8 weeks. (NOTE: No. 15 was understood differently by various reporters, the answers varied very greatly.)
16. Presence or absence of limp: Of 337 cases reported, 256 limped.
17. Inversion or eversion of foot or tilting of pelvis, causing serious axial displacement: Of 648 cases reported, 528 cases had no axial displacement, no eversion or inversion.
18. Large development of callus, producing any serious inconvenience in any way: Of 585 cases reported, 512 cases had no incommoding

callus; 56 cases had callus which produced some disturbance.

19. How measurements were taken: Of 212 cases reported, 191 were measured from anterior superior spine to internal malleolus; anterior superior spine to floor, 1 case; anterior superior spine to the tubercle of the tibia, 18 cases.

20. The amount of disability as estimated by (a) endurance, 613 cases reported, 163 endurance good; (b) pain, 624 cases reported, 25 had pain; (c) swelling of foot or leg, 576 cases reported, 27 had swelling; (d) interference with joint function, 635 cases reported, 26 had joint interference.

21. Mortality: 27 deaths, or 3.69 per cent. Causes of death: Pneumonia, 4; shock, 5 (aged); shock and delirium tremens, 1 (aged 64 years); delirium tremens, 4 (aged); various intercurrent diseases, 10; uremia, 1; hyperthyroidism, 1; exhaustion and shock, 1.

22. Was *x*-ray used: Of 274 cases reported, *x*-rays were used in 147. What it showed as to results: In 83 cases only was reported good apposition without angulation. Many reporters failed to note this point, however.

An analysis of the cases shows that the greatest number of these fractures occur in patients between twenty and fifty years of age, and the next largest number below ten years of age, and the third largest between ten and twenty years of age. It is evident that fractures of the shaft of the femur are injuries which are most common in youth and adult life.

Working people are far more subject to these fractures than any other class.

Indirect violence causes about five times as many cases as direct violence.

The middle region of the bone is the region which is oftenest fractured. The lower third comes next, and the upper third only a little less often.

Simple fractures are far more common than the compound and complicated ones.

The average shortening at the time of injury, that is at the time of admission when the case is first seen, is 1.38 inches.

An anesthetic was not used in reducing the majority of cases.

By far the largest number of cases were treated by some method of extension. Some form of Buck's extension or a modification of this method is the one which is most frequently employed. The average amount of extension used for traction in extension methods is fourteen pounds. (This I think is entirely too little considering the fact that most of these cases were in adults.)

The average length of time spent in bed from these fractures is 8.2 weeks and the length of time absent from work was 2.7 months. This is a result obtained from reports of 212 cases. It seems a very short time and I believe many reporters failed to understand this question and counted this period as the length of time in bed or under immediate treatment, rather than of total disability. This is also true in regard to the question of length of time, crutches, cane or other aids of walking were used: 207 cases were reported an average of a fraction less than 8 weeks.

Of 337 cases reported, 256 of the patients limped, showing that in the majority of these cases some limp persisted for a considerable time.

In regard to inversion or eversion of the foot or tilting of the pelvis, causing serious axial displacement, 648 cases were reported, and of these in 119 there was axial displacement, inversion or eversion, or in other words about one fifth, or 20 per cent.

Of the 585 cases reported in regard to large development of callus, in 56 there was reported disturbance caused by an excessive amount of callus, or about 10 per cent.

There were 212 cases reported in regard to the manner in which measurement was taken. Of these 191 were measured from the anterior superior spine to internal malleolus. It seems evident that this is the favorite measurement. The chairman again calls attention to the fact that the usual method of taking this measurement is inaccurate. It is also important always to check up the result of this measurement by some other measurement.

The amount of disability as estimated by (a) endurance, of 613 cases reported, only 163 had good endurance, a little over 20 per cent.; (b) pain, of 624 cases reported, 25 had persistent pain; (c) swelling of foot or leg, of 576 cases reported, 27 had swelling, that is, persistent swelling; (d) interference with joint function, of 635 cases reported, 26 had joint interference. This of course, refers to persistent interference because it almost always happens that some slight interference does occur soon after the splints are removed.

The mortality given is 3.69 per cent. I think that this is a mistake due to incomplete reports and lack of continuous observation, for the study of reports which are given by the most accurate and painstaking observers shows the percentage of mortality runs from six to eight per cent. I should say 6.5 per cent. would be the more accurate one, taking all cases.

Pneumonia, shock in the aged, shock and delirium tremens are the most frequent causes of death amongst the cases reported.

Out of all these cases in only 147 was it reported that *x*-rays were used. It is evident that surgeons do not as a matter of routine have their cases photographed by the *x*-ray. While every one must appreciate the fact that this in a large number of cases is impracticable in the country, yet it is a matter of growing importance, and the chairman believes that it would be best if surgeons would make a special effort to have a proper *x*-ray picture made of their cases of fractures of the femur. This would serve as a proper record, or rather as one of the best records, in a graphic way, to show the result of the fracture; it also would serve as a protection in case of suit or any subsequent questions as regards the outcome of the treatment.

Only 83 cases were reported as having good apposition without angulation, in which *x*-rays had been used, and which had been certified by this method.

The list of cases is a large one, large enough to establish many points and to serve as a reference, yet it is so fragmentary in regard to the reports of the majority of the cases that its value is very much lessened.

The chairman, while appreciating the value of this collection of cases and believing that the work which has not been inconsiderable will result in good, must warn students, who refer to the list, carefully to study the points and not conclude because 788 cases have been collected, that they may use the whole number in deducing conclusions from this list.

The chairman feels that a further study of this very much larger number of cases establishes and confirms the conclusions of last year and he would reiterate these conclusions and append them to this, the final report.

After all perhaps the chief object, and certainly one of prime importance in the study of these cases is to deduce a conclusion in regard to the value of the old conservative method as compared with the new or open method of treating these fractures.

The chairman has collected all together eighty-one cases of well-authenticated and well-noted instances of the open operation, without a single death after the operation, and they are reported as having made satisfactory recoveries.

The reporters, however, failed to note whether there was any suppuration in the cases, whether in a majority of them disability was not much longer,[1] and whether at any time the patients had been in jeopardy of their lives. I think all these points would have to be taken into consideration in estimating the value of the open as compared with the old conservative method.

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[1] Dr. Lowman's observation at Cambria Steel Company's works of men who could not retain their former jobs after recovering from these fractures by the old methods of treatment is a very interesting and important one.

Eighty-one cases against seven hundred would certainly offer not a proper proportion as regards a clear accurate comparison of the two methods, and the facts indubitably are that the collected cases show that nearly seven hundred of these cases were restored in a remarkably short average period to usefulness, and that only, according to the reports, 3.69 per cent. deaths result. While, in the hands of careful, skillful, well-prepared surgeons there is no doubt that the open method may be done with comparative safety, every thinking and experienced surgeon must admit that a wound, such as must be used in applying any proper sort of fixation apparatus directly to the shaft of the femur, adds a very strong element of danger to these cases. This, one must always consider in making up his mind in regard to these two methods.

In addition to this, one must remember that a very large majority, indeed nearly all the cases treated by the conservative method, make recoveries which may be called efficient without being exposed to the danger, or extra danger of infection, and the possible effect of weakening the bones by the screws or pins which must be inserted in order to hold the plate in place.

The open method is certainly valuable in cases in which it has been clearly demonstrated that proper apposition or restitution of the fragments can not, in the given case, be properly accomplished, and in such cases it should be used in the early stages, say in the first ten days, or two weeks. In the hands of careful surgeons with best hospital surroundings, the operation may be done without mortality, or with very low mortality.

Statistics, such as have been gathered, and the history of the completed cases do not show that the results as regards usefulness of the limb and shortening of the period of disability are better in any marked degree than the old conservative method. The conclusion must therefore be that these open methods can not be recommended as a routine practice, and that they should never be done except by men who are thoroughly qualified, and with proper surroundings, surroundings where the proper instruments may be had, where proper operation room facilities and training will insure thorough aseptic technic, for upon the absence of suppuration depends the result of the operation.

It seems to the commission that there is no reason from the study of this much larger number of cases to change the form or wording of the conclusions adopted by the commission of the Medical Society of the State of Pennsylvania in its report of last year, and it offers these as the present deductions.

These incomplete reports, and the comparatively large number of cases which have been tabulated serve to indicate indubitably that this most important fracture and serious injury, in hospitals at least, does not receive the attention and care of the chief surgeons as a rule. Treatment is usually delegated to the intern staff, whose experience and anatomical and mechanical knowledge are wholly inadequate to meet the indications in a great many of the cases, and whose lack of order and thoroughness makes the records of the cases such unreliable data that it is very difficult for any one searching for the truth in the various phases of treatment to find what he wishes.

The first recommendation of the commission, therefore, would be, and the first deduction from its work is, that teachers of surgery in medical schools should give far more attention than they have done in the last decade or more to their own investigation of fractures, and to the teaching of this most important branch of surgery to the students who belong to their classes.

Second, while recognizing the fact that *x*-ray photographs may be most misleading, the commission believes nevertheless, when taken by competent anatomists who understand the importance of proper relative position of tube and limb, and the importance of taking more than one view of the fracture, these radiograms will furnish an indication for the proper reduction, and the mechanical appliances for the preservation of proper apposition, and that they will serve as a graphic record of the fracture itself.

These radiograms to be most valuable should be taken before reduction of the fracture, when it has been reduced and has a fixed dressing, and finally after union has taken place and the patient is able to be up and about.

In regard to the method of treatment, the commission from the study of the cases finds that some form of traction is the method most commonly employed, and that the results after such treatment in most cases enables the patient to resume his occupation and function without serious detriment. Properly taken *x*-ray pictures however show that absolute apposition and restoration of proper axis of the bone is very seldom accomplished.

Deaths from simple fractures of the femur are 3.69 per cent. of the cases; the reports show they occur almost wholly in cases of old age from shock and exhaustion or from pneumonia; in drinkers from delirium tremens; or from some operative interference. It is evident that the open method itself introduces into the treatment of these cases, such a very marked element of danger that the commission can not recommend the method for general use nor recognize it as a routine practice.

In selected cases where it is impracticable to restore the fragments to their proper position, and where mechanical means have failed within a reasonable time to produce proper restitution of the fragments, the open method may be employed, but then only by an experienced surgeon, one who habitually employs most thorough aseptic methods.

The commission is not prepared to recommend any one method of mechanical treatment. As in everything else the method must be adapted to the case itself, and not the case to the method.

Some form of traction, such as Buck's extension, seems to be the preferable method of treatment. If Bardenheuer's suggestion of transverse traction over the ends of the fragments in order to overcome lateral displacements be added, it will greatly improve the results in many cases. Hamilton's apposition splints placed about the fracture at proper places will serve for this purpose in the majority of cases.

Plaster of Paris is also a valuable means of treating these fractures, but it should be applied under anesthesia. Complete relaxation, unconsciousness of pain, and laxity of muscle are necessary in applying the plaster dressing properly to these cases.

The usual methods of measurement are very inaccurate and give very misleading records in regard to shortening. This is all the more the case because of the well-established anatomical fact that femurs vary in length, and rarely are two lower extremities exactly the same. Records show good functional results after apparent shortening of extremities up to an inch and a half. The results may be considered good if the measurements show no more than an inch of shortening, provided there is no inversion or eversion of the foot from angulation of the fragments.

The ordinarily employed method of measuring from the anterior superior spine of the ilium to the tip of the internal malleolus should be checked as a rule by some other measurement, as for instance measuring from the tip of the ensiform cartilage to the internal malleolus or patella, or from the middle of the umbilicus to the internal malleolus. In making all measurements it is important to ascertain and assure if possible that the pelvis is not tilted and that the anterior spines are in the same horizontal plane.

DISCUSSION.

Dr. Edward Martin, Philadelphia: I would ask Dr. Estes if he will give us his own detailed treatment of a fracture of the middle third of the femur in the adult, in regard to the amount of weight used, the form of splints used, the time in bed, the time of beginning massage and passive movement of the knee. I ask this because by his enormous experience and his study of cases he is peculiarly fitted to lay down certain fundamental rules in regard to the treatment of these fractures.

Dr. Ernest Laplace, Philadelphia: Last year about this time I had the pleasure of following the service of Mr. Lane of London and I was very much struck by the technical skill which he possesses. He goes about placing his plates upon fractures and immediately and without ever touching the wound with his fingers; his skillful handling of these forceps and the skillful aids he has enable him to do ideal work. It would take a long time for an ordinary surgeon to acquire such skill as would warrant the adoption of the open method. I fully agree with Dr. Estes that in a convention like this we should send out the doctrine which is the best working doctrine for the average man, reserving special skillful treatment for those who are able to fulfill the proper indications to bring about these results. I therefore agree with Dr. Estes in recommending the mechanical or conservative treatment except when the open operation treatment is warranted by the skill of the surgeon.

Dr. Estes, closing: It is difficult without the apparatus to show you exactly the method that we ordinarily employ in my clinic, but in a general way I am very glad to tell you about it.

In the first place, fractures of the middle of the shaft of the femur as a rule are from indirect violence and are oblique in direction. We have found in these cases that the obliquity is almost as often in the vertical as in the lateral direction; in other words, that the apposition splints may go anteroposteriorly perhaps oftener than in the lateral direction. In the first place the limb is scrubbed thoroughly. Frequently it happens there are some abrasions; in this case these abrasions are always covered with tincture of iodin (1-3, tincture of iodin and alcohol), then we apply as a rule a Buck's extension, or rather the hospital modification of Buck's extension, which consists of a foot-piece on a sort of a railroad. This railroad is made of two lateral horizontal pieces, which we call the track, held together by transverse pieces and beveled to a point so that friction is reduced as much as possible; on this run two grooved pieces which are fastened to a leg piece which in turn is fastened to the patient's leg by a roller bandage. Under the roller bandage we always place the adhesive straps which are to serve as attachments of the weight. These having been applied, extension is put on. It is noted then the character of the deformity, viz., which way the overriding occurs. We then apply apposition splints. We have found if one places these apposition splints in the proper relative position in regard to the displaced fragment of bone one can ordinarily mould this into proper connection with the other fragment. This we do and change it from day to day as the deformity requires.

A very important point it seems to us is the amount of extension, the weight. In some adults we do not stop at fourteen pounds, we go to thirty pounds, and if thirty is applied it is not applied through the whole treatment but only for the time sufficient to overcome the spasm of the muscles and there is relaxation of the muscles; this means the muscles are tired of their resistance. That is at about ten days or two weeks, then the weight may be reduced. With so great a weight there is danger of forcing the heel down onto the splint and may cause a slough. Another point we find important is the proper protection of the heel. Many men seem to think the proper way to protect the heel is to put a quantity of material, cotton or what not, under the heel and simply raise it up. As you will recall the anatomy, padding on either side of the tendo Achillis, and beneath the malleolus, is the proper way to raise the heel from the surface. The traction is continued for a full month, then we use a plaster-of-Paris cast. We take an x-ray of every case as soon as the extension is on, after the extension is taken off, and after the plaster cast is removed. The cast is continued for two or three weeks, then it is removed and a system of massage and passive movements is instituted. This is continued for ten days or two weeks and the patient is allowed to be up and about on crutches. If no accident occur after he is on crutches, he is allowed to go home.

X-rays of all these cases are taken at the time the patients come in, when the fixation dressing is put on, whatever is used, when the extension is removed and before they leave the hospital. Measurements are taken when these *x*-rays are taken so that we have a record kept of the effect of the extension, the result as regards the *x*-ray appearance, and finally the result of the completed treatment as regards measurement, *x*-ray, and ability to use the extremity, and swelling, callus, and so on.

In transverse fractures we always give an anesthetic and try to reduce under anesthesia. With childern we think it is the best treatment, in almost all the cases of fracture of the middle third to anesthetize, reduce immediately under anesthesia and apply a plaster-of-Paris dressing. If we fail to get a proper apposition by traction, and do not obtain it by anesthesia, after carrying on this method for ten days we then employ the open method. We tell the patient we have been unable to reduce his fracture properly and the best thing is to use the open method. I am always frank with them, I tell them that it always introduces an element of danger, that the wound may possibly suppurate. I think the cases of open treatment in St. Luke's number 157. I do not mean open operation in cases of fra ture of the femur only, but cases of open method employed for all fractures for the purpose of applying a fixation splint directly to the bone. We had a death in one case only, that of fracture of the ulna which had been infected with tetanus before the patient came in; that patient died of tetanus. I am afraid I have not given you the details quite as I would like, but that is the usual procedure.

The supreme court of Missouri, in rendering a decision recently, said in part as follows: "The practice of medicine is not confined to the administration of drugs, nor is surgery limited to the knife. When a physician advises a patient to travel for his health he is practicing medicine. Broadly speaking, one is practicing medicine when he visits his patient, examines him, determines the nature of the disease and prescribes the remedy he deems appropriate."

THE USE OF TUBERCULIN IN TUBERCULAR ADENITIS OF THE NECK.

BY AMERICUS R. ALLEN, M.D.,

Surgeon to Todd Hospital; Visiting Physician Carlisle Indian School; Late Member of Pennsylvania State Board of Medical Examiners, Carlisle.

(Read in the Section on Surgery of the Medical Society of the State of Pennsylvania, Scranton Session, September 24, 1912.)

In the treatment of cases of tubercular adenitis of the neck it is essential that the point of infection be considered. As the infecting point is usually the tonsils, adenoids or diseased teeth, these organs should be carefully examined, and, if found diseased, the tonsils should be enucleated, the adenoids removed, the teeth should be examined by a dentist and all cavities treated and filled, and any roots that may be found should be removed. I have found in the cases I have had under treatment at the Carlisle Indian School that if these tissues are properly attended to, the case progresses much more rapidly to a final disappearance of the gland enlargement.

In some of the cases, tonsils that appeared normal before operation, when enucleated, showed abscesses between the tonsil and the capsule; others that were cryptic were filled with caseous material. These tonsils are especially prone to harbor and lodge the tubercular bacilli in the crypts, and abscesses, and by absorption infect the lymphatics of the neck. I am not so certain, however, that the adenoid growth is as important a factor in causing the infection of the lymph chain as is the tonsil. For the general effect, however, I have them removed. The teeth, when diseased, and cavities have formed, are a very important factor in causing tubercular infection in these glands. In a number of instances, where no evidence of tonsillar infection could be found, I had the school dentist examine the teeth and found cavities that contained débris that under the microscope showed the tubercular bacilli. Therefore at the school when these cases present themselves for treatment I have all the tonsils that show the slightest evidence of disease removed and with them any adenoids that may be present, and the teeth cared for by the school dentist. By so doing I start the treatment under favorable conditions and they are free from the primary source of infection.

I do not believe that, as a rule, a tubercular foci should be opened up and a raw surface exposed to infection by the tubercular bacilli, yet in these cases in the removal of the adenoids and the enucleation of the tonsils, where the infection is within the glandular tissue, the danger of infecting the raw surface is slight, the point of infection is completely removed, and further infections from these points are impossible.

It has been my experience that in these cases where the infections have started from the tonsils, adenoids or teeth, the improvement from the tuberculin treatment has been more marked, and more satisfactory than in those cases where I was unable to find the primary point of infection.

In all cases where the neck glands showed signs of softening or of undergoing caseous degeneration they were allowed to proceed to the point where they opened spontaneously. When this occurred the opening was enlarged and the cavity was lightly curetted to remove any jelly-like material present, but not severe enough to affect any tissues that formed the inflammatory wall. In fact the débris was coaxed out rather than curetted.

I have had at the school during the past eighteen months forty of these patients under treatment with tuberculin and have kept close records of the cases. When I first began the treatment, I had blood counts taken before and after each injection and found that after each injection there was an increased leukocyte count. After a few injections I found that this was unimportant and the count was dropped. The rise in temperature after the first injections varied in the different cases from one to five degrees, lasting from twenty-four to thirty-six hours, rising less after each injection until finally no elevation of temperature occurred. The patients, except in one instance, showed a gradual increase in weight as soon as tuberculin was used, and in none a loss. The maximum gain and loss in weight of each patient was kept, the weights being recorded at each injection. The greatest increase in weight of any one case was eighteen and one half pounds, and in one case no gain was noted. In the other cases the gain in weight varied from two to ten pounds.

In those glands that undergo caseous degeneration or break down, there is a probability that other near-by glands will be so badly infected that they will also break down. This has occurred in this series of cases several times; it is, however, not to the discredit of the tuberculin treatment, but is due to the infection having already extended to the communicating gland. There is also the possibility of a secondary infection of these near-by glands from some form of the various cocci, gaining entrance through the original opening, that it is well to bear this fact in mind.

In the treatment of these cases, before I began the use of tuberculin injections, I had used the various alteratives and had given the patients eggs and milk freely. This treatment was continued in conjunction with the injections, but until the tuberculin was used no general increase in weight or marked improvement was noticed as was apparent after its use.

Another factor in the use of tuberculin was the prompt healing of a number of sinuses of the neck and of the resulting wounds remaining after the broken-down material had been removed.

The tuberculin used was Koch's old tuberculin prepared by H. K. Mulford and Company, and the initial dose was two minims of serial dilution No. 1, increasing two minims each injection until serial dilution No. 5 was reached; and the injections were continued at this strength. The injections were given weekly. At present I am using my own dilutions made from a stock preparation of Koch's old tuberculin.

In the treatment of these cases I have found: (1) That the use of tuberculin has a decided curative effect in all cases of tubercular cervical adenitis; (2) that the prompt removal of offending tonsils and adenoids with proper treatment of the teeth is essential where these organs are diseased; (3) that as soon as tuberculin is used there is decided increase in the weight of the patients and that the general health improves markedly and rapidly; (4) that where discharging sinuses are present they close promptly and that the wounds remaining from broken-down glands, heal quickly and kindly; (5) that operative removal of these tubercular glands is to be deprecated as the tuberculin treatment is efficacious and much more beneficial.

Note. I wish to express my thanks for the assistance rendered me in the treatment of this series of cases to Dr. Francis R. Packard and Dr. Eve of the Pennsylvania Hospital, Dr. Butler of the German Hospital, and to my residents at the Indian School Hospital, Drs. Hess, Treibly and Fralic, and to the assistant school dentist, Dr. Line.

DISCUSSION.

Dr. George M. Dorrance, Philadelphia: The question of the course of infection is very interesting. The teeth as infecting agents was studied very carefully by Starck in the *Revue de la Tuberculose*, July, 1896. He was the first to find tubercle bacilli in decayed teeth. In my series of seventy-two cases the tonsils were the source of infection in twenty-four cases; in forty-five decayed teeth were the source. For the remaining three, no cause could be ascertained. Some of the cases had both enlarged tonsils and decayed teeth. In two cases the tubercle bacilli were found in the roots of the teeth. It may have been present more frequently, but I did not systematically look for it.

The treatment of this affection by tuberculin in my hands has been rather discouraging, as I have been able to find no difference between those treated with this method and those which have been left alone. I gave up the use of tuberculin a year or so ago because I thought I started up an acute tuberculosis in three patients. They had tuberculosis elsewhere and two of them became rapidly worse apparently going on to a miliary type. As this had happened to others, I substituted the x-ray for the succeeding number of cases. Those on whom I have used the x-ray treatment have all cleared up in a period of eight or twelve weeks. Several required a second course of treatment for very small glands several months later. I agree with Dr. Allen that it is absolutely necessary to remove the source of infection, whether it be the tonsils, teeth, or otherwise. The surgical removal of glands, however, ought not to be attempted unless they have broken down. Even then, it is usually sufficient to tap the abscess. With the best surgical technic, recurrences after removal are very frequent. In fourteen of my seventy-two cases, the patients had been operated upon previously by other surgeons; three have been operated upon by me with recurrence and failure. It must not be forgotten that about eighty-five per cent. of the glandular involvement will disappear with fresh air and sunshine, providing the source of infection is removed.

Another interesting point is that Letterer and Lewis have shown in twenty-six consecutive cases in which the glands were removed that tubercle bacilli either of the human or bovine type were found in every case. This apparently proves that all are tuberculous, but I do not quite agree with them. I think the larger proportion are tuberculous, say about eighty-five per cent., the remainder being a mixed infection.

To the senior man in our ranks we look for an example, and in the smaller towns and country districts if he would remember that it is his duty to receive and welcome the young fellow who settles near him, that he should be willing to act as his adviser and refuse to regard him as a rival, he may make a good friend and perhaps gain a brother.—Wm. Osler.

VACCINE THERAPY IN TUBERCULAR BONE AND JOINT DISEASE.

BY DAVID SILVER, M.D.,
Pittsburgh.

(Read in the Section on Surgery of the Medical Society of the State of Pennsylvania, Scranton Session, September 24, 1912.)

To form a satisfactory estimate of the value of tuberculin, as used to-day in the treatment of tubercular bone and joint disease, is difficult. One finds the most divergent opinions, and these, too, among men of apparently equal ability. Yet, while it is hard to explain the conflicting experiences met with in literature and in clinical work, a critical review of the material at hand seems to offer a good deal of value to those interested in the subject. The material for this review is drawn from three sources, (1) literature, (2) the opinions of those engaged in treating bone and joint diseases (obtained by means of a circular letter) and (3) a personal experience extending over the last five years.

In order to enable one to judge of the probable efficacy of tuberculin therapy, certain fundamental principles must first be appreciated. At the very outset of our study of the question we are met with the difficulty of accurately estimating the degree of improvement obtained. In tubercular bone and joint disease we have to deal with an essentially chronic process, one in which, even when recognized in its inception and treated under the most favorable conditions, we do not expect a cure under a year or two and count ourselves fortunate if it does not exceed three or four. It is a process which, as a rule, responds kindly to well-established and essential measures of treatment—immobilization, sunlight and fresh air, and good food. In such a slowly progressing disease, one in which acute symptoms are usually readily controlled and in which the duration varies within rather wide limits, it is obviously difficult to judge of the benefit derived from a single new measure. It must be remembered also that tuberculin does not exert any action directly upon the tubercle bacillus but owes its efficacy to the reaction it sets up in the healthy tissues, it merely increases the body resistance; hence, it acts in an exactly similar, even though it may be more powerful, manner as do the older and simpler measures mentioned. It is this similarity of action which makes it so difficult to estimate the true value of tuberculin; with a better understanding of the principles of its administration the difference in results may become more evident.

It is at once apparent that if the action of tuberculin is similar in character to that of modern open-air methods, that is, if it simply increases body resistance, thus "only accentuating what is Nature's own cure," striking results can hardly be looked for. That class of cases in which resistance is already high, as shown by the excellent general appearance and the subacute character of the local symptoms, will probably be little, if any, influenced by the treatment. Moreover, the opposite class in which the tubercular infection has produced a profound systemic effect and practically exhausted the immunizing capacity of the tissues is obviously unfavorable. Further, cases with abscesses or sequestra will offer the same resistance to tuberculin therapy as to other nonoperative measures, while those complicated by sinuses are unlikely to yield readily to any treatment. We are thus left with the intermediate cases, those neither favorable nor unfavorable, as the ones theoretically most suitable for the use of this method. In these we may perhaps hope to turn the tide in favor of recovery, to shorten the duration of the disease, and to secure an improved function. In other words, the best we can reasonably expect from the scientific and perfected use of tuberculin is to obtain slightly better results in selected cases.

But it is not solely a question of the degree of benefit to be obtained, for unfortunately tuberculin is a remedy which is also potent for evil and ''capable of doing irreparable damage if it is used without adequate knowledge and guidance as to dosage and spacing the doses.'' It is a powerful poison, as the infinitesimal doses used attest, and at the same time individual susceptibility varies widely. Too small a dose is of no value, while too large a one may paralyze the immunizing mechanism and possibly permit the lighting up of a latent focus. To gauge the dose correctly is most difficult; there is as yet no generally accepted method for this purpose. Further, it is no easy matter to decide when immunity has been established or when treatment should be stopped.

Some of the difficulties encountered in tuberculin therapy, therefore, are the estimation of the degree of improvement in the individual case, the selection of suitable cases, and the avoidance of the dangers due to improper dosage.

Turning now to the consideration of results, let us first review the literature. The available papers may be conveniently grouped in three classes, the decidedly favorable, the partially favorable, and the unfavorable.

Perhaps the most favorable report and at the same time possibly the most valuable, since it comes from the institution in which Sir Almroth Wright has carried out his work, is that of Maynard Smith, who summarizes the results obtained in the out-patient work at St. Mary's Hospital. Smith reports seventy-two cases, in thirty-four of which the patients returned for subsequent examination. Of the thirty-four who returned, three had been treated by inoculation from the beginning, while sixteen had first received twelve months or less, and fifteen more than twelve months, of treatment by the usual methods. Of the three, two were cured with complete restoration of function, so that an observer who did not know the patient could not tell which had been the diseased joint, and the third was also cured but with some deformity and limitation of motion; of the sixteen, ten were cured with perfect function, two had slight limitation of motion, and four were improved; of the fifteen, two had been under treatment for only a couple of months and two were unimproved after six and ten months respectively, while six were cured and five improved but still under treatment. In eight cases there were sinuses, all of which healed with one exception in which the patient failed to return after six months' treatment. The duration of the inoculations in thirteen of the cases showing the greatest improvement varied between five and thirty-five months, the average being about fifteen months. The complete restoration of function in so large a proportion of the cases is noteworthy, and Smith states that it is his ''belief that these are better results than are usually obtained in tuberculous disease of the joints.''

Several other English writers have obtained equally good results, and it may be remarked that the English generally, possibly stimulated by the work of Wright, appear rather favorably inclined.

Another optimistic contribution is that of Schlossmann of Dusseldorf who, in contrast to the usual custom, recommends the administration of enormously large doses (after the system has first been rendered tolerant by repeated small ones).

American observers are with few exceptions less enthusiastic than their foreign colleagues; as a rule they are less definite in defining the degree of improvement, confining themselves to the expression of opinion that the patients ''do better'' during a given period with tuberculin than a corresponding one without, or that their results since using tuberculin have been better than in previous years when it was not used. Willard and Thomas claim that the detention of the patients in the hospital is materially shortened and that complications, if they occur, are fewer and less severe. Stern also states that his patients, who receive tuberculin routinely, unless there are specific contraindications, are discharged in less average time than ever before. Ochsner thinks he observes a greater mobility on removing the retentive apparatus. To be mentioned further is the opinion of Packard who believes that he receives great assistance from the use of tuberculin in the bone and joint affections of adults, in fact "sufficient to turn the tide in their favor, when the battle has seemed to go against them."

A distinctly unfavorable report is that of Ridlon. Two series of cases from his clinic were treated by observers skilled in vaccine therapy; in the first, consisting of ten cases, the opsonic index was used to gauge the dosage, while in the other of twelve the clinical method was employed. Ridlon examined the cases and wrote down his findings before and after the treatment. He concludes that tuberculin treatment when gauged by the opsonic index is harmless but in the majority of cases of no appreciable value, while when administered by the clinical method in harmless doses it is useless and in large doses both dangerous and harmful.

A comparison of the cases from these various sources suggests two possible reasons for obtaining little or no benefit in some of them; first, the selection of cases which are naturally the most resistent to all methods, and second, a too short interval of treatment; that it has proved efficacious in some cases can not be doubted. If tuberculin is capable of appreciably shortening the duration of the disease and yielding a better functional result, even if it be only in a few cases, it is worthy of a place in therapy, provided it can be so used as to eliminate its dangers.

In order to secure a more accurate idea than that afforded by literature of the extent to which tuberculin is employed by those treating tubercular bone and joint disease and the results obtained from its use, a circular letter was sent to the members of the American Orthopedic Association and others engaged in the same work. Fifty-one answers were received, a sufficient number to yield an accurate impression of the general experience.

Of the fifty-one about half (27, or 53 per cent.) had either not used tuberculin therapy at all (17) or had had insufficient experience to form an opinion (10). The most common excuse offered by those who had failed to give it a trial was the lack of results observed in the work of others.

The other half (24, or 47 per cent) were able to report a considerable experience, in several instances as long as five years or more. These were practically evenly divided in their opinions, eleven reporting unsatisfactory results, one being doubtful, and twelve favorable. Those reporting unsatisfactory results had failed to observe any greater improvement in patients receiving tuberculin than in those not thus treated. Of these, four are still using it; one is still experimenting to determine its value; two use it occasionally with the object of giving the patient the value of every known remedy; one uses it in early cases to increase resistance, although stating that he "does not believe he receives any noticeable assistance from its use." The remaining seven have given it up altogether. Of the twelve who report successful results, four belong to the decidedly favorable class and the rest to the partially favorable; three use it as a routine treatment, while the remainder employ it in selected cases only. The opinions of five of the twelve are available in literature.

My own experience is limited to a small

number of cases, something over fifty, treated during the last five years at the Allegheny General Hospital, the Children's Hospital of Pittsburgh, and the Sewickley Fresh Air Home, the inoculations being given according to the clinical method by those assisting me in the work. We have not observed any definite influence on the mobility of the joints nor any striking decrease in the duration of treatment; the patients have, however, improved generally and there has been a more rapid increase in weight, a point noted by many other observers; there have been cases in which the treatment has been discontinued because of failure to improve but none in which we thought harm had been done. In one patient with tuberculous disease of the hip, under treatment at the Sewickley Fresh Air Home, following an injury the other hip became involved despite the tuberculin, and the child subsequently died. In criticising our own work I feel great dissatisfaction with the regulation of the dosage and we are now experimenting with a method for the more exact determination of the proper amount.

As regards the use of other vaccines in cases complicated by secondary infections, the general verdict is rather more favorable. These are usually combined with the tuberculin. Autogenous vaccines are naturally preferable and it is necessary to remember that the predominant strain frequently changes.

CONCLUSIONS.

1. There is sufficient evidence that tuberculin is a remedy of some value in the treatment of tubercular disease of the bones and joints; just how valuable has not yet been determined and probably will not be until a simple and accurate method for the regulation of dosage is obtained. At the most, however, it can not be expected to prove more than an adjunct to other measures.

2. Inaccurately given, tuberculin is capable of doing serious damage. Hence in the present state of our knowledge it should be used only by those having the time and facilities for devoting to it especial study. It is decidedly not a remedy for the busy practitioner; for him the established and essential measures, immobilization, sunlight and fresh air and good food if properly applied, are still the most efficient.

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DISCUSSION.

Dr. G. G. Davis, Philadelphia: Dr. Silver has presented a very fair and judicial exposition of the question and I believe his conclusions are just. The earlier reports were very favorable to vaccine treatment. Some two years ago at a meeting in Washington the American Surgical Association had some papers on this question and as a rule they were favorable to it. In the Orthopedic Association, however, the feeling was unfavorable. I have never been enthusiastic over it, but I am convinced it is of service in a few cases. When a person has sick people to treat I think they should be careful in the selection of their lines of treatment, not on account of any danger of the particular line that they choose, but if they choose one line then they neglect other lines. Now in the treatment of tuberculous bone and joint diseases I am of the firm belief that results are absolutely proportionate to the personal skill and attention which these cases receive. I am convinced that the bulk of the tuberculous cases will progress favorably under the means which Dr. Silver has stated, the ordinary constitutional measures, and rest and protection. If that is so, then if we submit a patient to the vaccine treatment the tendency is to neglect the other line of treatment. For instance, I have seen a case in which the vaccines were being most faithfully tried and yet the other treatment practically neglected; joints and bones can be kept suppurating almost indefinitely if they are disturbed. For this reason I think that if a verdict were given in favor of vaccine it would mean a neglect of other methods of treatment, and if it comes to an absolute comparison between the two I think that the ordinary surgical methods are way ahead of the vaccine. If one has but one to depend upon, the surgical method is the one. Abscesses and sinuses and all the bad effects of tuberculosis can be remedied by surgical means. The use of injections of iodin solution in various strengths and injections of wax and iodoform or bismuth are efficient.

I would reserve the vaccine treatment practically for the cases in which I am afraid Dr. Silver would repudiate them. In other words, if the case becomes stationary and unsatisfactory under the ordinary methods then I institute the vaccine treatment. We have had a considerable number of these; one will sometimes get good results and sometimes notice no results. In other words, I feel it is an agent which can not be depended upon, yet it is one which we owe it to the patient to try, especially in those tuberculous patients that seem to get into a period of quiescence in a bad, unsatisfactory state. They live, but they do not get better. In cases of that sort I believe in resorting to the vaccine treatment with care. I believe it is good for some cases but should not be used exclusively to the neglect of other surgical means.

Dr. Myer Solis-Cohen, Philadelphia: I would like to ask Dr. Silver to state what method he employed for regulating the dose of tuberculin. There is great difficulty in deciding the proper dose in treating with tuberculin in any condition. The opsonic-index method has been abandoned largely because of difficulty in performing the test; the irregularity in results being great. I want to mention a method I have employed in pulmonary tuberculosis as a suggestion for its use in orthopedic tuberculosis. I have found that when the tuberculous patient gets better, the proportion of lymphocytes in the blood is increased and when the patient gets worse the proportion of lymphocytes is diminished. In giving tuberculin I take the differential leukocytic count and if the dosage given causes a rise in the percentage of lymphocytes I consider it the proper dose, but if the proportion of lymphocytes falls I consider that an excessive dose. The clinical results have borne out this blood picture. In the case of tuberculosis when the patient did poorly the lymphocytes dropped and when he did well they rose. I have used that method in regulating tuberculin treatment. I am also using it to regulate graduated exercises. At the Brompton Hospital where Dr. Inman followed Patterson's work with the opsonic index he found the proper dose of graduated exercise caused a rise in the opsonic index. If the dose of exercise is excessive, just as when the dose of tuberculin is excessive, the curve drops. I want to ask Dr. Silver what is the new method he is testing. He has not described it.

Dr. Silver, closing: I think Dr. Davis and I are probably not so far apart in the choice of cases as he thinks. In the answers received to my circular letter, several men spoke of trying tuberculin when they did not know anything else to use; that is, in extremity. This is obviously an unfair test of the tuberculin.

In regard to the method for regulating the dose we are trying a similar one to that described by White and Van Norman in which one is guided by the amount of the skin reaction. The method which Dr. Cohen has just mentioned seems to me a very excellent one and I shall certainty test it and see how it compares with the other.

ACUTE OSTEOMYELITIS.

BY JOHN H. GIBBON, M.D.,
Philadelphia.

(Read in the Section on Surgery of the Medical Society of the State of Pennsylvania, Scranton Session, September 24, 1912.)

There has always been more or less confusion in the classification of inflammatory bone lesions, due largely to a lack of accurate pathological knowledge and an incorrect interpretation of clinical findings, but now the situation has been clarified by the work of a few men, notably Murphy of Chicago and Nichols of Boston, who have studied the subject from both the pathological and clinical aspects with the result that many of our former beliefs have had to undergo a radical change.

In this brief presentation I shall confine what I have to say to a consideration of the question of acute osteomyelitis of the long bones. It must be borne in mind that only the acute infections are to be dealt with, for too much confusion has already resulted from confounding the chronic and tuberculous bone lesions with the acute infections; they bear about the same relation to one another that an acute gangrenous appendicitis bears to a tuberculous peritonitis.

Pathology. We formerly believed that the medulla of the long bones frequently became acutely inflamed from exposure to cold, from slight traumatism, and often as an extension of a preëxisting infection of the periosteum. Exposure to cold and slight traumatism may be determining causes of an infection but the real factor is the lodgment of a pus-producing organism in the marrow of the bone itself. It is here that the infection practically starts in all cases, and we must realize and teach this, for otherwise, when pus is found in quantities under the periosteum and the bone appears to be in good condition, the operator will feel satisfied that he has reached the source of the trouble and allow the medulla to remain undrained or insufficiently drained. The staphylococcus and the streptococcus are the organisms most generally found in these infections and the process starts at either end of the diaphysis, near, but not at, the epiphyseal line, (the epiphyseal line is the point of origin of the tuberculous infections).

Homans[1] presents an interesting study of ninety-four cases of acute infection of the long bones and his figures are interesting in showing the relative frequency of infection of the different bones: Femur, upper end 24, lower end 15 (and one general infection of unknown origin); tibia, upper end 12, lower end 19 (and three general infections of unknown origin); fibula, upper end 3, lower end 4; humerus, upper end 9, lower end 0; radius, upper end 0, lower end 4 (and two general infections of unknown origin); ulna, upper end 1, lower end 1; clavicle, inner end 2.

When an acute infection of the medulla occurs the pus follows the course of the proverbial "line of least resistance" and moves up and down the canal, then through the compact portion of the bone at the epiphyseal line or through one or more of the various foramina; the periosteum is lifted up from the bone and a second accumulation of pus takes place, communicating with the original collection through a small opening. The periosteum is finally destroyed and the pus makes its way into the surrounding tissues. The congestion and infiltration of the medulla deprives the bone of much of its blood supply and when the second stage of the process is reached, and the periosteum separated, the blood supply of a portion of the bone is completely arrested with resulting necrosis. I believe that this is the pathological picture which we should have in our minds when undertaking the treatment of an acute osteomyelitis.

Symptomatology. Looked upon from a clinical point of view, we must consider an acute osteomyelitis much as we do the acute abdominal crises and, until we do, the mortality must continue high and extensive necrosis of bone, repeated operations, prolonged suffering and ultimate disability be the rule. The disease may be considered practically one of childhood. The symptoms are those common to all acute pyogenic infections but, as a rule, they are more severe, the local manifestations being, unfortunately, often overshadowed by the constitutional symptoms of sepsis.

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[1] *Annals of Surgery*, March, 1912.

Pain and tenderness are the only early local signs and deserve careful consideration for by them alone are we directed to the source of the trouble. The child first complains of pain in the extremity, holds it rigid, and resists passive movements. Examination shows tenderness and sometimes edema over the involved bone, especially if it is a superficial one. Sometimes the onset is less severe and the localizing signs become gradually more marked. In the course of a few days or a week, if the child has not succumbed to the overwhelming infection, there develops all the local signs of an acute suppurative process, which it is needless to enumerate. The fatal error of pronouncing the case one of rheumatism is often made. The frequency of this mistake is lamentable. The symptoms of an acute articular rheumatism and those of an acute osteomyelitis are sufficiently dissimilar to render the error of confusing them inexcusable and it is more to be deplored because the treatment of the two conditions is so different.

In a majority of the cases the constitutional symptoms are severe and occasionally in spite of the greatest care, especially in young children, the patient dies before the infection can be localized. A high temperature and a high leukocyte count are present and often the patient is delirious. A low leukocyte count may be present in a case of overwhelming infection. Fortunately in most instances there are sufficient local signs to indicate the area of the bone involved and the diagnosis is then not difficult. When the constitutional symptoms begin to abate without the intervention of drainage at the hands of the surgeon it is because the pus has made for itself an imperfect drainage tract through the bone. The Röntgen rays, although of the greatest value in the diagnosis of bone lesions, unfortunately fail to show anything in the early stages of an acute osteomyelitis and the negative findings are of no value in the presence of the clinical evidences above enumerated. X-ray plates should, however, always be made and in the later stages of the disease will show its location and extent.

The early diagnosis then rests upon the marked constitutional symptoms (high temperature, high leukocyte count and, possibly, delirium) together with the localized pain, rigidity and especially the localized tenderness, which is marked directly over the site of the infection. If in addition to these there is redness and edema the diagnosis is practically a certainty.

Treatment. It is in the very acute case with severe constitutional symptoms of sepsis and few localizing signs, seen most frequently in younger children, that the treatment calls for the exercise of the wisest surgical judgment. Such cases have caused me more uneasiness than any obscure abdominal condition, for in the latter the situation may be cleared up by opening the abdomen and the only point to be determined is whether the symptoms justify this procedure, while, in the cases under discussion, no exploratory incision will do more than eliminate a small area of bone. Of course if there is localized tenderness, and especially edema over the bone, no hesitation is justifiable and immediate drainage of the medulla should be made. In a few cases, however, the little patients are unconscious or delirious and only rigidity and pain on movement can be elicited. These are the patients that die promptly from sepsis and in such cases an exploration of the medulla of the suspected bone is quite justifiable. Probably the site of infection that is most difficult to locate is that in the upper end of the femur and yet this is the most frequent situation of the disease. The surgeon, who has learned to depend so much upon the Röntgenologist in his bone cases particularly, laments the fact that the *x*-ray plate gives him no help in the very early stages of this acute condition. Later on, when the destruction of a portion of the bone has advanced and considerable pus is present, of course the plate shows it and the surgeon knows exactly where to institute the drainage.

Eliminating the cases where the local symptoms are lacking or are overshadowed by a profound sepsis, there is no excuse for delaying operation in a case of acute bone infection. Drainage should be promptly and thoroughly established without the use of the curet or chisel in the medullary canal. If a sufficient opening is made, preferably with the chisel, through the dense portion of the bone and a free exit made for the pus, Nature will often be able to save much of the medullary portion of the bone which, if the curet is used may be destroyed and extensive necrosis result. The operator should always bear in mind that the bone receives its nourishment through vessels which transverse the medulla as well as from those in the periosteum. The periosteal supply is, in many of these cases, already cut off by the pus which has lifted the periosteum from the bone and if the medulla is curetted this source of supply is also eliminated and extensive necrosis is sure to result. In the late cases, of course, both sources of blood supply may have already been destroyed by the septic process. In operating for acute bone infection where the pus has made its way through the bone and lifted up the periosteum, we have all, too often, made the mistake of simply evacuating the subperiosteal abscess and allowing the diseased medulla to remain undrained or inefficiently drained. If it is remembered that these infections practically always start in the medulla and are not periosteal in origin, the error just referred to will be avoided.

In the neglected case where a large section of the medullary portion of the bone has been destroyed, and the periosteum separated from the shaft over a corresponding area, the question will arise as to whether that portion of the shaft which is apparently deprived of its blood supply and doomed to a necrosis should be at once removed, or a thorough drainage of the medullary canal instituted and the necrotic bone removed later, when a certain amount of new bone has developed in the periosteum. Personally, in the acute case I postpone the radical procedure as I believe less bone is sacrificed by it and less deformity results where we do not remove the shaft or a portion of it until some new bone has formed in the periosteum. Le Conte[2] shows that the ultimate results are not nearly so good when a second operation is postponed too long, and Homans is equally positive that resection of the shaft should not be made during the early stage of the disease. Probably in two or three weeks after thorough drainage of the medulla the necrotic shaft, or necrotic portion of it, should be removed. On removing the shaft, the question of how the periosteum should be dealt with and whether or not drainage should be kept up will arise and I believe that both of these questions can be determined only by the activity of the suppurating process and the patient's general condition. If the wound is fairly clean the periosteum should be brought together loosely by interrupted stitches and the superficial tissues also partly closed with or without a superficial drain. If active suppuration is taking place the edges of the periosteum should be approximated, leaving spaces between the sutures through which a drain can be inserted and the superficial wound left open or only partially closed.

In a paper of this extent it is impossible to discuss the ultimate results of the extensive removal of the shaft of a long bone and I shall simply say that complete regeneration can be confidently expected in the average case if the proper treatment is followed. In closing I wish to emphasize, especially for the benefit of the practitioner who first is called to treat an acute osteomyelitis, that this disease is not rheumatism and that it constitutes a surgical emergency.

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[2] *Annals of Surgery*, June, 1912.

DISCUSSION.

Dr. William L. Estes, South Bethlehem: I think Dr. Gibbon has done this section and the profession of the state a very great service in calling attention to that which has hitherto not been properly appreciated, to say nothing of the neglect which usually follows. These acute infections of the bone marrow have but recently received in this country anything like the attention they deserve and I think that Dr. Gibbon very properly characterizes them, as regards bone diseases or inflammations, as holding the position in regard to them that acute appendicitis does to inflammations of the abdomen, and that they should be treated with the same confidence and energy that an acute appendicitis should meet with. He has emphasized a point which can not be too often repeated and that is, it is the medulla of the bone which is affected in these cases and that no process of cure, nor any proper surgical measure, has been carried to its legitimate extent until the medullary cavity is opened and has been drained. I remember very distinctly that, in my early experience, finding subperiosteal collections of pus I was content with draining these when I found no direct connection with a sinus into the medulla. Almost invariably I was obliged to repeat the operation because I had not opened the medulla. Murphy has shown that in the earlier cases, if they be recognized, it is simply necessary to remove a tiny, sometimes not more than the head of a black shawl pin, collection of pus. Just as in the puncture of a beginning phlegmon or tenosynovitis is cured by puncturing the sheath and emptying out the pus, so it is with these conditions. I am not prepared at this moment to say absolutely, but my impression is and I believe my experience has led me to believe that Homans is incorrect in regard to the most frequent location of these suppurative positions in children in regard to the femur and tibia. It is my experience that the lower part of the femur and the upper part of the tibia are most frequently involved. The important point is that in young children osteomyelitis is apt to occur and destruction of the bone will surely occur unless it is relieved at once.

I have had recently three very sad cases which illustrate the bad effects of a false diagnosis in these cases. I have at present under treatment three children who were thought to have rheumatism in the early state, in one three weeks, another fifteen days, another five weeks. In one case there was a small puncture of the skin made, nothing else was done and all were supposed in the beginning to be rheumatic and were treated as rheumatism. The result was in every one of these cases an extensive destruction of bone. In one case, a boy of twelve, the whole femur was practically destroyed. I did in the case what Dr. Gibbon has recommended, namely, I took out the focus of worst destruction and drained the cavity of the medulla, leaving for a subsequent operation the removal of the necessarily necrotic bone. It looked at that time as if the whole shaft of the femur would have to be removed. It may be that some of it may be retained. The case was in such a desperate condition that it would have been impossible to have done anything more than, as Murphy said, "get in as soon as possible and get out immediately." I had to scoop out pus and detritus and did not stop to tie many blood vessels because the boy was almost moribund. He had a temperature of 104° to 105° for weeks and was so nearly exhausted that any extensive operation would have been simply death. Another point to be accentuated is, just as in appendicitis, in fulminant cases one has to drain frequently, not only the site of the abscess, but also the lowest part of the abdomen, so in cases of osteomyelitis it is necessary in many cases to drain the lowest part of the medullary cavity. For instance, if the femur be involved, especially as low down as the middle, I should make a puncture at the lowest part of the diaphysis and drain there. I find an excellent way of doing it is to use a small trephine and cut a small button out of the bone and insert a drain, using wick or tube as the case may be. The most important point is to recognize the fact that these cases are very prevalent, that they occur in children, that it is in the shaft of the bone that the greatest tenderness and pain is experienced and that only secondarily are the joints involved, and no man should make the mistake of supposing them to be cases of rheumatism.

Dr. G. G. Davis, Philadelphia: I think one of the main points is, as has been suggested, in the way of diagnosis. I believe it is extremely difficult to recognize the cases of acute osteomyelitis and a good many people can not tell them from rheumatism at the time. If that is so, then comes the question of distinguishing and there is one means of distinguishing them and that is by operation. If one proposes operating very early one is desirous of being assured that harm will not be done by the operation. In other words, if one can assure the parents that no harm will be done by the operation one can resort to earlier and more radical measures. I believe the disease begins, as I think Dr. Stiles pointed out, in the end of the diaphysis nearest the epiphysis. Therefore, if a child has an inflammatory condition around the joint, with high constitutional symptoms, and a certain amount of local reaction and one is in doubt as to whether it is a rheumatic or osteomyelitic process then I think one should make an incision in the lower end of the tibia close to the epiphyseal end of the diaphysis. In other words, make it practically a routine procedure so far as the upper and lower ends of the tibia, or the lower end of the femur, are concerned to make an incision close to the joint, yet not into the joint, then make a small incision, proceeding at once down to the bone and with a drill one eighth of an inch in diameter, or, as Dr. Estes has suggested, with a small trephine not over one quarter of an inch, make two or three small holes. That treatment would be perfectly effective, excepting in the hip-joint where it would be somewhat difficult and to a certain extent more dangerous, but in other joints it would be a procedure which would settle the question of diagnosis, and avoid the bad effects of osteomyelitic process.

Dr. L. Jay Hammond, Philadelphia: While it is true that osteomyelitis is more commonly met with in the situations given by the essayist and those who have preceded me, we should bear in mind the fact that it is also likely to occur in any bone. I recently saw a case in a small child with acute osteomyelitis of the rib which rapidly broke down developing secondary empyema and ultimately gangrene of the lung, which not only emphasizes this fact, but emphasizes the importance of early recognition and treatment. Empyema following osteomyelitis of the ribs is certain to develop if the infected bone is not recognized and promptly treated, while it can with a degree of certainty be avoided if early recognized and treated as has just been suggested.

INFLAMMATION OF THE EYE RESULTING FROM THE EXPLOSION OF A GOLF BALL.

BY JOHN T. CARPENTER, M.D.,
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Philadelphia.

(Read before the Ophthalmological Section of the College of Physicians, October 17, 1912.)

Ophthalmic literature is replete with the histories of ocular injuries, reported apparently only because of the unusual character of the accident. This case was, when first seen, we thought unique. The details of several cases similar to ours having been brought to our notice we believe a publication of the details may aid in a prevention of future accidents of so destructive a nature.

The accident consisted in the explosion of a zodiac golf ball during an investigation of its composition. There is a desire on the part of everyone to know the make-up of articles of various kinds. We all probably have cut open base balls, certainly dismembered old clocks and watches and would, given the opportunity, just as likely break open a golf ball.

On August 4, 1912, H. G., a professional at a suburban golf club, while examining a zodiac golf ball with the purpose of ascertaining the reason for its remarkable carrying powers, met with the following accident. Placing the ball in a vise, he cut into the hard outer covering with a chisel. Hardly had this tool penetrated the cover when there was an explosion, the core of the ball, a putty-like material, flying over the victim and especially into his left eye, producing intense burning pain. Whatever this material settled upon it burned, even the patient's shirt being riddled with fine holes.

Dr. W. B. Small, who was present, gave efficient aid by washing the eye and removing with cotton swabs the paste, which adhered to the face, the left eyeball and filled the left conjunctival cul-de-sac. After applying ice until the pain was somewhat ameliorated he sent the patient to Dr. Carpenter for examination and treatment.

At that time, scarcely two hours after the accident, the following conditions were present: Numerous small excoriated areas on the face and left eyelids; general swelling and redness of the left upper and lower lids; palpebral margins whitened in their outer halves; entire bulbar and palpebral conjunctiva transformed into gray sloughing tissue; the cornea, except in the upper fifth, opaque and milky. The chemosis of the conjunctiva was so great that the lids failed to cover the protruding tissues. The general appearance was that of an unusually severe lime burn. Vision was reduced to counting fingers held close before the eye and the pain and photophobia were intense.

The treatment during that stage of the inflammation consisted in frequent instillations of atropin, dionin and holocain. Ice compresses were used at frequent intervals in the beginning but were soon replaced by hot compresses as the cornea was apparently undergoing dissolution.

That stage of the disease continued about two weeks, showing little tendency to subside, and at the end of that period there developed in addition a violent iridocyclitis with hypopyon and general necrosis in the lower quadrant of the cornea. The cornea then stained deeply with fluorescin in the lower quadrant and the remaining area of the cornea showed a greenish tinting from penetration by the fluorescin.

The patient who had until that time been treated as an office case was admitted to the Bryn Mawr Hospital and the threatened panophthalmitis averted by active local and general antiphlogistic measures, leeches, mercurial inunctions and salicylates being added to the treatment outlined above. The iridocyclitis improved slowly so that two weeks later there was no hypopyon, the iris completely relaxed and ciliary tenderness was absent.

A third stage of this inflammatory process then began, a gradual failure of nutrition. The condition at that time, six weeks after the injury, was very discouraging, the cornea in its upper half being covered with small epithelial blebs, and the episcleral tissues transformed into pale cicatricial, flattened bands surrounding the limbus, threatening the nutrition of the cornea as shown by the presence of large bullæ in the lower quadrant. Vision had only improved to the ability to distinguish the sixty-meter letters at about one meter distance, the corneal parenchyma being densely opaque.

On September 16, six weeks after the accident, a large quantity of normal salt solution was administered beneath the conjunctiva producing, within forty-eight hours, clearing of the upper half of the cornea with an entire disappearance of the corneal blebs. This treatment was continued, the injections being given every third day. So remarkable was the improvement that, in all, but four injections were required, the eye at the end of this time being in an active reparative state.

At the time the patient was presented before the Ophthalmic Section of the College of Physicians, ten weeks after the accident, the eyeball was quiet, the cornea so far cleared that vision with a plus 1.75 spherical lens equaled 6/6. On November 5 a slight return of irritation being noticed, another saline injection was given and with the same beneficial effect as previously noticed.

At the time this case was reported Langdon in discussion mentioned a similar accident in which, however, the cornea was but slightly involved. The patient, although suffering severe reaction, recovered with normal vision. Frisch and Mevay of Atlantic City kindly sent us the details of a case of a boy who cut open a golf ball with a penknife. The inflammation resulting was so severe that the eye became phthisical. Casey Wood has reported in the *Ophthalmic Record* of October, 1912, the history of a similar accident and makes note of two other cases.

Wood found the contents of the golf ball in his case to consist of zinc salts. Frisch and Mevay in their case found a strong acid. In our case, and also in Langdon's, there was a strong alkali. The effect produced certainly resembled more closely an alkali than an acid burn.

While there seems to be a difference of opinion as to the reason for putting chemical matter in these so-called "water-core" balls the explanation that seems to us the most probable is that it is to add weight, a given volume of saturated sodium hydrate solution, for example, weighing considerably more than the same volume of water.

PRINCIPLES OF MEDICAL ETHICS.

(Revised and adopted by the House of Delegates of the American Medical Association, Atlantic City, N. J., June 4, 1912.)

CHAPTER I.

The Duties of Physicians to Their Patients.

THE PHYSICIAN'S RESPONSIBILITY.

Section 1.—A profession has for its prime object the service it can render to humanity; reward or financial gain should be a subordinate consideration. The practice of medicine is a profession. In choosing this profession an individual assumes an obligation to conduct himself in accord with its ideals.

PATIENCE, DELICACY AND SECRECY.

Section 2.—Patience and delicacy should characterize all the acts of a physician. The confidences concerning individual or domestic life entrusted by a patient to a physician, and the defects of disposition or flaws of character observed in patients during medical attendance should be held as a trust and should never be revealed except when imperatively required by the laws of the state. There are occasions, however, when a physician must determine whether or not his duty to society requires him to take definite action to protect a healthy individual from becoming infected, because the physician has knowledge, obtained through the confidences entrusted to him as a physician, of a communicable disease to which the healthy individual is about to be exposed. In such a case, the physician should act as he would desire another to act toward one of his own family under like circumstances. Before he determines his course, the physician should know the civil law of his commonwealth concerning privileged communications.

PROGNOSIS.

Section 3.—A physician should give timely notice of dangerous manifestations of the disease to the friends of the patient. He should neither exaggerate nor minimize the gravity of the patient's condition. He should assure himself that the patient or his friends have such knowledge of the patient's condition as will serve the best interests of the patient and the family.

PATIENTS MUST NOT BE NEGLECTED.

Section 4.—A physician is free to choose whom he will serve. He should, however, always respond to any request for his assistance in an emergency or whenever temperate public opinion expects the service. Once having undertaken a case, a physician should not abandon or neglect the patient because the disease is deemed incurable; nor should he withdraw from the case for any reason until a sufficient notice of a desire to be released has been given the patient or his friends to make it possible for them to secure another medical attendant.

CHAPTER II.

The Duties of Physicians to Each Other and to the Profession at Large.

ARTICLE I.—DUTIES TO THE PROFESSION.

UPHOLD HONOR OF PROFESSION.

Section 1.—The obligation assumed on entering the profession requires the physician to comport himself as a gentleman and demands that he use every honorable means to uphold the dignity and honor of his vocation, to exalt its standards and to extend its sphere of usefulness. A physician should not base his practice on an exclusive dogma or sectarian system, for "sects are implacable despots; to accept their thraldom is to take away all liberty from one's actions and thought." (Nicon, father of Galen.)

DUTY TO MEDICAL SOCIETIES.

Section 2.—In order that the dignity and honor of the medical profession may be upheld, its standards exalted, its sphere of usefulness extended, and the advancement of medical science promoted, a physician should associate himself with medical societies and contribute his time, energy and means in order that these societies may represent the ideals of the profession.

DEPORTMENT.

Section 3.—A physician should be "an upright man, instructed in the art of healing." Consequently, he must keep himself pure in character and conform to a high standard of morals, and must be diligent and conscientious in his studies. "He should also be modest, sober, patient, prompt to do his whole duty without anxiety; pious without going so far as superstition, conducting himself with propriety in his profession and in all the actions of his life." (Hippocrates.)

ADVERTISING.

Section 4.—Solicitation of patients by circulars or advertisements, or by personal communications or interviews, not warranted by personal relations, is unprofessional. It is equally unprofessional to procure patients by indirection through solicitors or agents of any kind, or by indirect advertisement, or by furnishing or inspiring newspaper or magazine comments concerning cases in which the physician has been or is concerned. All other like self-laudations defy the traditions and lower the tone of any profession and so are intolerable. The most worthy and effective advertisement possible, even for a young physician, and especially with his brother physician, is the establishment of a well-merited reputation for professional ability and fidelity. This can not be forced, but must be the outcome of character and conduct. The publication or circulation of ordinary simple business cards, being a matter of personal taste or local custom, and sometimes of convenience, is not per se improper. As implied, it is unprofessional to disregard local customs or offend recognized ideals in publishing or circulating such cards.

It is unprofessional to promise radical cures; to boast of cures and secret methods of treatment or remedies; to exhibit certificates of skill or of success in the treatment of diseases; or to employ any methods to gain the attention of the public for the purpose of obtaining patients.

PATENTS AND PERQUISITES.

Section 5.—It is unprofessional to receive remuneration from patents for surgical instruments or medicines; to accept rebates on prescriptions or surgical appliances, or perquisites from attendants who aid in the care of patients.

MEDICAL LAWS—SECRET REMEDIES.

Section 6.—It is unprofessional for a physician to assist unqualified persons to evade legal restrictions governing the practice of medicine; it is equally unethical to prescribe or dispense secret medicines or other secret remedial agents, or manufacture or promote their use in any way.

SAFEGUARDING THE PROFESSION.

Section 7.—Physicians should expose without fear or favor, before the proper medical or legal tribunals, corrupt or dishonest conduct of members of the profession. Every physician should aid in safeguarding the profession against the admission to its ranks of those who are unfit or unqualified because deficient either in moral character or education.

ARTICLE II.—PROFESSIONAL SERVICES OF PHYSICIANS TO EACH OTHER.

PHYSICIANS DEPENDENT ON EACH OTHER.

Section 1.—Experience teaches that it is unwise for a physician to treat members of his own family or himself. Consequently, a physician should always cheerfully and gratuitously respond with his professional services to the call of any physician practicing in his vicinity, or of the immediate family dependents of physicians.

COMPENSATION FOR EXPENSES.

Section 2.—When a physician from a distance is called on to advise another physician or one of his family dependents, and the physician to whom the service is rendered is in easy financial circumstances, a compensation that will at least meet the traveling expenses of the visiting physician should be proffered. When such a service requires an absence from the accustomed field of professional work of the visitor that might reasonably be expected to entail a pecuniary loss, such loss should, in part at least, be provided for in the compensation offered.

ONE PHYSICIAN TO TAKE CHARGE.

Section 3.—When a physician or a member of his dependent family is seriously ill, he or his family should select a physician from among his neighboring colleagues to take charge of the case. Other physicians may be associated in the care of the patient as consultants.

ARTICLE III.—DUTIES OF PHYSICIANS IN CONSULTATIONS.

CONSULTATIONS SHOULD BE REQUESTED.

Section 1.—In serious illness, especially in doubtful or difficult conditions, the physician should request consultation.

CONSULTATION FOR PATIENT'S BENEFIT.

Section 2.—In every consultation, the benefit to be derived by the patient is of first importance. All the physicians interested in the case should be frank and candid with the patient and his family. There never is occasion for insincerity, rivalry or envy and these should never be permitted between consultants.

PUNCTUALITY.

Section 3.—It is the duty of a physician, particularly in the instance of a consultation, to be punctual in attendance. When, however, the consultant or the physician in charge is unavoidably delayed, the one who first arrives should wait for the other for a reasonable time, after which the consultation should be considered postponed. When the consultant has come from a distance, or when for any reason it will be difficult to meet the physician in charge at another time, or if the case is urgent, or if it be the desire of the patient, he may examine the patient and mail his written opinion, or see that it is delivered under seal, to the physician in charge. Under these conditions, the consultant's conduct must be especially tactful; he must remember that he is framing an opinion without the aid of the physician who has observed the course of the disease.

PATIENT REFERRED TO SPECIALIST.

Section 4.—When a patient is sent to one specially skilled in the care of the condition from which he is thought to be suffering, and for any reason it is impracticable for the physician in charge of the case to accompany the patient, the physician in charge should send to the consultant by mail, or in the care of the patient under seal, a history of the case, together with the physician's opinion and an outline of the treatment, or so much of this as may possibly be of service to the consultant; and as soon as possible after the case has been seen and studied, the consultant should address the physician in charge and advise him of the results of the consultant's investigation of the case. Both these opinions are confidential and must be so regarded by the consultant and by the physician in charge.

DISCUSSIONS IN CONSULTATION.

Section 5.—After the physicians called in consultation have completed their investigations of the case, they may meet by themselves to discuss conditions and determine the course to be followed in the treatment of the patient. No statement or discussion of the case should take place before the patient or friends, except in the presence of all the physicians attending, or by their common consent; and no opinions or prognostications should be delivered as a result of the deliberations of the consultants, which have not been concurred in by the consultants at their conference.

ATTENDING PHYSICIAN RESPONSIBLE.

Section 6.—The physician in attendance is in charge of the case and is responsible for the treatment of the patient. Consequently, he may prescribe for the patient at any time and is privileged to vary the mode of treatment outlined and agreed on at a consultation whenever, in his opinion, such a change is warranted. However, at the next consultation, he should state his reasons for departing from the course decided on at the previous conference. When an emergency occurs during the absence of the attending physician, a consultant may provide for the emergency and the subsequent care of the patient until the arrival of the physician in charge, but should do no more than this without the consent of the physician in charge.

CONFLICT OF OPINION.

Section 7.—Should the attending physician and the consultant find it impossible to agree in their views of a case, another consultant should be called to the conference or the first consultant should withdraw. However, since the consultant was employed by the patient in order that his opinion might be obtained, he should be permitted to state the result of his study of the case to the patient, or his next friend, in the presence of the physician in charge.

CONSULTANT AND ATTENDANT.

Section 8.—When a physician has attended a case as a consultant, he should not become the attendant of the patient during that illness except with the consent of the physician who was in charge at the time of the consultation.

ARTICLE IV.—DUTIES OF PHYSICIANS IN CASES OF INTERFERENCE.

CRITICISM TO BE AVOIDED.

Section 1.—The physician, in his intercourse with a patient under the care of another physician, should observe the strictest caution and reserve; should give no disingenuous hints relative to the nature and treatment of the patient's disorder; nor should the course of conduct of the physician, directly or indirectly, tend to diminish the trust reposed in the attending physician.

SOCIAL CALLS ON PATIENT OF ANOTHER PHYSICIAN.

Section 2.—A physician should avoid making social calls on those who are under the professional care of other physicians without the knowledge and consent of the attendant. Should such a friendly visit be made, there should be no inquiry relative to the nature of the disease or comment upon the treatment of the case, but the conversation should be on subjects other than the physical condition of the patient.

SERVICES TO PATIENT OF ANOTHER PHYSICIAN.

Section 3.—A physician should never take charge of or prescribe for a patient who is under the care of another physician, except in an emergency, until after the other physician has relinquished the case or has been properly dismissed.

CRITICISM TO BE AVOIDED.

Section 4.—When a physician does succeed another physician in the charge of a case, he should not make comments on or insinuations regarding the practice of the one who preceded him. Such comments or insinuations tend to lower the esteem of the patient for the medical profession and so react against the critic.

EMERGENCY CASES.

Section 5.—When a physician is called in an emergency and finds that he has been sent for because the family attendant is not at hand, or when a physician is asked to see another physician's patient because of an aggravation of the disease, he should provide only for the patient's immediate need and should withdraw from the case on the arrival of the family physician after he has reported the condition found and the treatment administered.

WHEN SEVERAL PHYSICIANS ARE SUMMONED.

Section 6.—When several physicians have been summonded in a case of sudden illness or of accident, the first to arrive should be considered the physician in charge. However, as soon as the exigencies of the case permit, or on the arrival of the acknowledged family attendant or the physician the patient desires to serve him, the first physician should withdraw in favor of the chosen attendant; should the patient or his family wish someone other than the physician known to be the family physician to take charge of the case the patient should advise the family physician of his desire. When, because of sudden illness or accident, a patient is taken to a hospital, the patient should be returned to the care of his known family physician as soon as the condition of the patient and the circumstances of the case warrant this transfer.

A COLLEAGUE'S PATIENT.

Section 7.—When a physician is requested by a colleague to care for a patient during his temporary absence, or when, because of an emergency, he is asked to see a patient of a colleague, the physician should treat the patient in the same manner and with the same delicacy as he would have one of his own patients cared for under similar circumstances. The patient should be returned to the care of the attending physician as soon as possible.

RELINQUISH PATIENT TO REGULAR ATTENDANT.

Section 8.—When a physician is called to the patient of another physician during the enforced absence of that physician, the patient should be relinquished on the return of the latter.

SUBSTITUTING IN OBSTETRIC WORK.

Section 9.—When a physician attends a woman in labor in the absence of another who has been engaged to attend, such physician should resign the patient to the one first engaged, upon his arrival; the physician is entitled to compensation for the professional service he may have rendered.

ARTICLE V.—DIFFERENCES BETWEEN PHYSICIANS.

ARBITRATION.

Section 1.—Whenever there arises between physicians a grave difference of opinion which can not be promptly adjusted, the dispute should be referred for arbitration to a committee of impartial physicians, preferably the Board of Censors of a component county society of the American Medical Association.

ARTICLE VI.—COMPENSATION.

LIMITS OF GRATUITOUS SERVICE.

Section 1.—The poverty of a patient and the mutual professional obligation of physicians should command the gratuitous services of a physician. But institutions endowed by societies, and organizations for mutual benefit, or for accident, sickness and life insurance, or for analogous purposes, should be accorded no such privileges.

CONTRACT PRACTICE.

Section 2.—It is unprofessional for a physician to dispose of his services under conditions that make it impossible to render adequate service to his patient or which interfere with reasonable competition among the physicians of a community. To do this is detrimental to the public and to the individual physician, and lowers the dignity of the profession.

SECRET DIVISION OF FEES CONDEMNED.

Section 3.—It is detrimental to the public good and degrading to the profession, and therefore unprofessional, to give or to receive a commission. It is also unprofessional to divide a fee for medical advice or surgical treatment, unless the patient or his next friend is fully informed as to the terms of the transaction. The patient should be made to realize that a proper fee should be paid the family physician for the service he renders in determining the surgical or medical treatment suited to the condition, and in advising concerning those best qualified to render any special service that may be required by the patient.

CHAPTER III.

The Duties of the Profession to the Public.

PHYSICIANS AS CITIZENS.

Section 1.—Physicians, as good citizens and because their professional training specially qualifies them to render this service, should give advice concerning the public health of the community. They should bear their full part in enforcing its laws and sustaining the institutions that advance the interests of humanity. They should cooperate especially with the proper authorities in the administration of sanitary laws and regulations. They should be ready to counsel the public on subjects relating to sanitary police, public hygiene and legal medicine.

PHYSICIANS SHOULD ENLIGHTEN PUBLIC—DUTIES IN EPIDEMICS.

Section 2.—Physicians, especially those engaged in public health work, should enlighten the public regarding quarantine regulations; on the location, arrangement and dietaries of hospitals, asylums, schools, prisons and similar institutions; and concerning measures for the prevention of epidemic and contagious diseases. When an epidemic prevails, a physician must continue his labors for the alleviation of suffering people, without regard to the risk to his own health or life or to financial return. At all times, it is the duty of the physician to notify the properly constituted public health authorities of every case of communicable disease under his care, in accordance with the laws, rules and regulations of the health authorities of the locality in which the patient is.

PUBLIC WARNED.

Section 3.—Physicians should warn the public against the devices practiced and the false pretensions made by charlatans which may cause injury to health and loss of life.

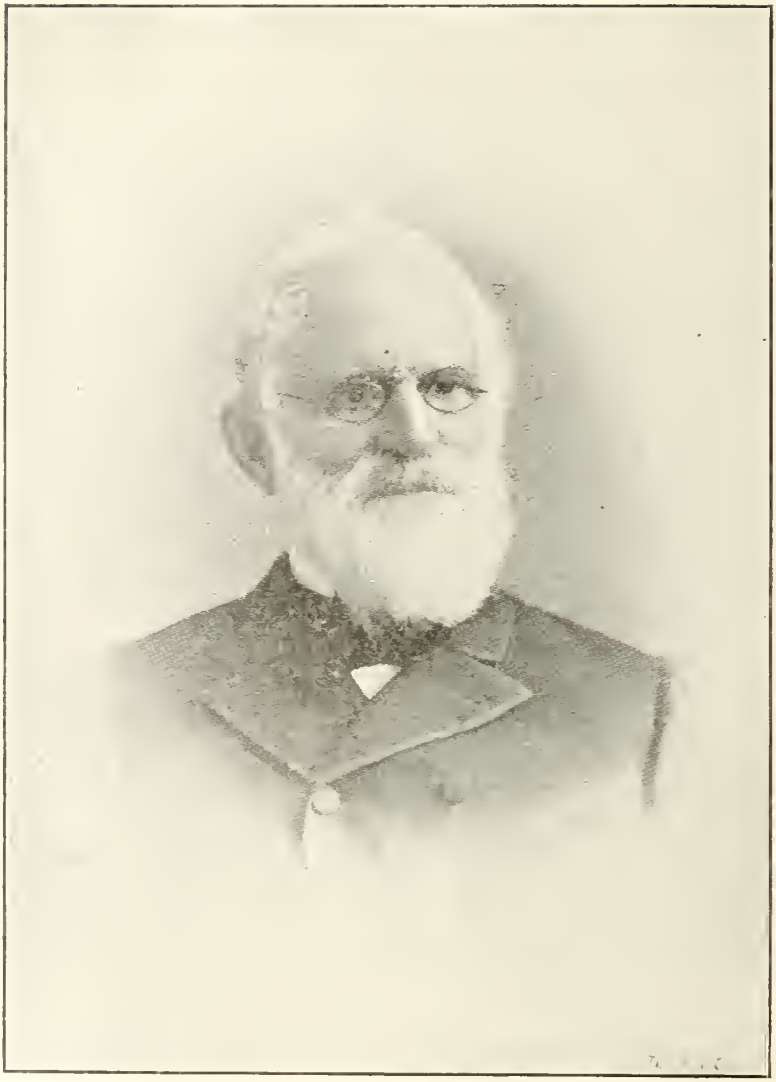
PHARMACISTS.

Section 4.—By legitimate patronage, physicians should recognize and promote the profession of pharmacy; but any pharmacist, unless he be qualified as a physician, who assumes to prescribe for the sick, should be denied such countenance and support. Moreover, whenever a druggist or pharmacist dispenses deteriorated or adulterated drugs, or substitutes one remedy for another designated in a prescription, he thereby forfeits all claims to the favorable consideration of the public and physicians.

CONCLUSION.

While the foregoing statements express in a general way the duty of the physician to his patients, to other members of the profession and to the profession at large, as well as of the profession to the public, it is not to be supposed that they cover the whole field of medical ethics, or that the physician is not under many duties and obligations besides these herein set forth. In a word, it is incumbent on the physician that under all conditions, his bearing toward patients, the public, and fellow practitioner should be characterized by a gentlemanly deportment and that he constantly should behave toward others as he desires them to deal with him. Finally, these principles are primarily for the good of the public, and their enforcement should be conducted in such a manner as shall deserve and receive the endorsement of the community.

CAT.



HIRAM CORSON, M.D.
Born October 8, 1804—Died March 4, 1896.
President of Society, 1852-1853.

The Pennsylvania Medical Journal.

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All communications should be addressed to the Pennsylvania Medical Journal, Athens, Pa.

The Medical Society of the State of Pennsylvania does not assume responsibility for any statements or opinions published in this Journal.

Athens, December, 1912.

HIRAM CORSON, M.D.

In the year 1685, two vessels containing Huguenot refugees left France bound for South Carolina. One of these vessels, for some cause, landed at Staten Island. In that vessel was Dr. Hiram Corson's paternal ancestor, Cornelius Corson (called then Corssen), whose son Benjamin later settled in Pennsylvania.

Hiram Corson was born in Plymouth Township, Montgomery County, October 8, 1804, received his early education at the Friends' School at Plymouth Meeting and later at the Friends' Select School in Philadelphia, and was himself a Friend and much attached to the principles of that religious body. He entered upon the study of medicine at the University of Pennsylvania at the age of twenty-two, graduating two years later.

Dr. Corson's life was that of an active practitioner of medicine, a frequent contributor to medical literature and, above all, a reformer. He began the practice of his profession in Plymouth Meeting in 1828, at a time when the physician must cover a large territory mostly on horseback. Frequently, he was obliged to ford the

Wissahickon Creek and the Schuylkill River, often at great risk to life. His physical and moral courage, his abounding energy, his great mental activity were shown throughout his sixty years of practice. He was original in his methods and fearless in carrying them out. He was a pioneer in the use of cold water in eruptive diseases and in the treatment of local inflammations. When, in 1832, Asiatic cholera appeared in this country, he did not hesitate to go to Philadelphia to study the disease and its treatment in order that he might be prepared for the epidemic when it should reach his own neighborhood. The disease did reach Conshohocken in a week after his return and the recollection of its ravages was one of the most painful memories of his life.

Dr. Corson found time and material for numerous contributions to medical journals, having written altogether sixty-eight medical papers, to say nothing of important pamphlets. In this connection he makes the statement that whenever he prepared a paper for publication, he invariably read it to his wife before sending it to the publisher. "None was sent without her approval."[1]

Dr. Corson's kindness of heart and his faithfulness to duty is shown by his claim that he never, in all his sixty years of practice, failed to give as prompt attention to the calls of the poorest as to those of the richest patients. He did not, however, regard his strenuous life as a practitioner as his greatest work but placed in the front rank of his achievements his long and successful labors, first to secure the recognition of women in the medical profession and, second, to procure the passage of a law "to authorize trustees of hospitals for the insane poor under the control of the state to appoint women physicians to have the entire medical control of the insane of their sex."[2] While his efforts in both these directions were finally crowned with success, it was only after bitter opposition and abuse. But the justice of his cause sustained him through many a battle royal and such was the sweetness of his disposition that when his opponents were finally converted, they became his devoted friends as they had been, perforce, his admiring enemies, and later they were glad to do him honor.

The attempt to secure the admission of women to membership in the Philadelphia County Medical Society was, after a four year's truce, resumed in 1888 when, in this last and successful campaign, women physicians themselves for the first time took part.[3] An interesting feature of this canvass was a reception to Dr. Corson held in Philadelphia. The reason assigned for this reception was "recognition of distinguished professional labors covering a period of sixty years," a quite sufficient one, but the affair had also another significance fully recognized by all concerned; it was also in recognition of his faithful, life-long devotion to the cause of the medical woman. Under these circumstances, the fact that the names of thirteen of the most distinguished medical men in Philadelphia appeared with fourteen names of medical women in the personnel of the committee, of which the president, secretary and treasurer were women, was of immense significance, indicating that the actual professional status of women in Philadelphia was not represented by their status, or want of it, in the county society. Dr. Corson, who was at this time in his eighty-fourth year, had the satisfaction of learning, two weeks later, that a woman was for the first time, admitted to membership in the Philadelphia County Medical Society.

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[1] See "The Corson Family," by Hiram Corson, M.D.

[2] Dr. Corson deeply regretted that the new law did not make the appointment of a woman chief physician imperative rather than permissive.

[3] See "The Woman's Medical College of Pennsylvania; an Historical Outline," by Clara Marshall, M.D., pages 62 to 66.

The following are some of the achievements as set forth in his autobiography: "I was fifty-six years old when I began the opposition to the doings of the Philadelphia County Medical Society against medical women and the Woman's Medical College; sixty-seven when the embittered struggle for the recognition of female physicians was accomplished; seventy-two years old when I began my efforts to procure the law to have only women physicians in care of their own sex in state hospitals for the insane; seventy-five when that law was procured."[4]

Dr. Corson founded the Montgomery County Medical Society in 1847, antedating the founding of the Philadelphia County Medical Society by two years. He was elected president of the Pennsylvania State Medical Society in 1852; elected associate member of the Philadelphia Obstetrical Society in 1874; associate fellow of the College of Physicians in 1876; appointed trustee of the State Hospital for the Insane at Harrisburg, in 1877; "official visitor" to the Hospital for the Insane at Norristown in 1884. (This position was declined on account of his advanced age.) In 1894 he was elected honorary member of the National Association of Obstetricians and Gynecologists.

This long life of honorable achievement was closed by death, March 4, 1896, and in an address delivered at the exercises in memory of Dr. Corson, Dr. James Tyson of Philadelphia thus characterized the type to which he belonged: "The honest physician, ardent lover of truth, inveterate and fearless foe of shams, whose single aim was the welfare of the sick and the honor and advancement of his profession."

M.

EFFECTS OF EXTENSIVE RESECTION OF THE SMALL INTESTINE.

An important factor in the ultimate success or failure of operative procedures involving removal of important structures or organs is the functional protection afforded by compensatory textural and physiologic adaptations. From this standpoint it would be a great advantage to know in advance, in so far as possible, to what extent the organism is capable of making good such losses of tissue.

With the purpose of determining this relation with respect to the small intestine Dr. Joseph Marshall Flint[1] has made a careful experimental study of the effect in dogs of resection of varying lengths of bowel. As a result of this investigation it was found that as much as fifty per cent. of the total small intestine in dogs may be removed without fatal results. The animals may gradually return to a condition of practically normal weight and metabolism when maintained on favorable diet under good conditions. Resection of seventy-five per cent. and even more of the total small intestine may be survived, but under such circumstances true recovery, that is return to normal weight, with the establishment of a good compensatory process, is not likely to occur. At first the animals suffer from severe diarrhea, ravenous thirst and appetite and loss of weight, but gradually normal conditions are restored, although the animals remain extremely sensitive to unfavorable conditions of diet and living. Metabolic studies on such animals show that there is a marked increase in the excretion of the nitrogenous, fatty and carbohydrate elements of the food. The elimination may reach sixty-six per cent. of the diet-content. After compensation is established on a rich, easily assimilated diet, digestion goes on as in the normal dog except for an increase in the amount of intestinal putrefaction, as indicated by the amount of indican in the urine. An increase in the amount of fats in the food may lead to an increased elimination of nitrogen and fats to a point about twenty-five per cent. above normal. The carbohydrates on the contrary are absorbed to a degree considerably above normal after compensation is established. The compensatory process consists in an hypertrophy as well as hyperplasia of the remaining portion of the small intestine. There is no regeneration of either the villi or the crypts. Computation makes it probable that in favorable cases approximately the original epithelial area of the intestine is restored by the hypertrophic process.

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[4] Dr. Alice Bennett entered upon her duties as medical superintendent in the Department for Women in the State Hospital for the Insane at Norristown, Pa., July 12, 1880.

[1] *Bulletin of the Johns Hopkins Hospital*, May, 1912, p. 127.

As in animals, about fifty per cent. of the small intestine may be resected in human beings without much danger of serious consequences in the majority of cases. The resection of smaller amounts may, however, be followed by severe metabolic disturbances, and even inanition and death. In man the metabolic disturbances are similar to those observed in animals. In one instance there was distinct evidence of a compensatory process. No regeneration or hypertrophy has ever been reported in a case in a human being. More than fifty-eight cases have been reported in the literature in which more than 200 centimeters of small intestine have been resected. The mortality has been sixteen per cent., which is probably less than the actual percentage, as successful cases are more likely to be reported than unsuccessful ones. The metabolic disturbances observed in human beings after extensive resection of the bowel bear no definite relationship to the amount of small intestine resected. Recovery has taken place in five cases in which resection of more than 400 centimeters has been practiced, while death from inanition has resulted from resection of smaller amounts. Profound digestive disturbances have resulted from removal of 192 and 204 centimeters of ileum respectively.

In cases in man, factors such as difficulty in measurement, the pathological condition, the total length of the intestine and the resistance of the patient, undoubtedly modify the result, and explain the apparent discrepancies between the amount of bowel resected and the subsequent metabolic disturbances. In the cases in human beings, the prognosis should be guarded. Apparently successful resection may for lack of suitable compensation result ultimately in death from a slow process of inanition. The experiments and the cases in human beings emphasize the specific function of the three segments of the intestinal tract. Neither the stomach nor the colon is able to compensate for the loss of large portions of the small intestine. Resection of the human intestine is almost never an operation of choice. The surgical rule has been and will continue to be resection of the minimum amount allowed by the pathological conditions. From the metabolic studies it would seem wise to give a patient whose bowel has been resected a rich and easily assimilated diet, poor in fats and rich in carbohydrates. E.

NOTICE TO COUNTY MEDICAL SOCIETIES.

The undersigned has been appointed the representative from Pennsylvania to the Council of the National Legislative Conference for the coming year. He is now requested to make nominations to the council for the membership of the Auxiliary Legislative Committee, which must be composed of one member from each county in the state.

County societies are earnestly requested to send the names of nominees immediately, in order that this committee shall be punctually appointed, and organized in time to do efficient work.

In looking over the list of the former membership it is evident that some men who formerly were members of this committee are now dead, and it is necessary that new names shall be forwarded and new men appointed.

W. L. ESTES, South Bethlehem.

THE DANGER OF PROPRIETARY NAMES.

A fatal case of lysol poisoning, due to a druggist's error in dispensing the proprietary cresol solution, lysol, in place of the castor oil nostrum, laxol, recently occurred.[1] In commenting on this case the *American Druggist* (October, 1912) says:

> "........ a physician ordered two ounces of laxol and the clerk delivered two ounces of lysol instead. This error was furthermore made possible by the very unscientific and unsatisfactory method in which the directions were written, for the doctor ordered that the patient should take the medicine 'as directed.' While there seems to be no excuse to be offered for the substitution of the poisonous lysol, unless indeed the writing was faulty, for the harmless laxol, such a substitution would probably never have occurred had the physician written the directions instead of giving them verbally. This practice of giving verbal directions and labeling the prescriptions 'as directed' is a most objectionable one from every point of view, save possibly the convenience of the physician. Where verbal directions are given misunderstandings may easily arise and the patient or the nurse may even forget the directions between the time they are received from the physician and the time the drug is received from the pharmacist. We believe that physicians should in every case write out the directions for use in full on their prescriptions. In this particular instance such a practice would undoubtedly have saved a life."

The Western Pennsylvania Retail Druggist in reporting the case states that "a paper signed by a physician was handed in on which was written 'Laxol 2 ounces.'" While in this case the physician evidently did not consider it necessary to write a formal prescription for this castor oil mixture. we are in entire accord with the suggestion that a physician should in every case write out the directions for the administration of a medicine, for there is danger that verbal directions will be misunderstood or forgotten. Such directions often are also a valuable guide to the pharmacist who fills the prescription, in that it enables him to correct any accidental miscalculation of dosage. It is particularly important that a preparation intended for external use should bear a statement declaring this fact.

While the druggist's error is inexcusable of course it seems that the chief blame attaches to the dangerous similarity of the names laxol and lysol. It is a forcible illustration of the danger of the short, catchy titles that are the rule with proprietary medicines. The error could not have occurred had the physician prescribed the official cresol solution, liquor cresolis compositus. S.

ANOTHER MYSTERY CLEARED UP.

While pharmacologists and chemists who have studied the matter recognize that the soporific property of lettuce is a myth, preparations of lactucarium still are contained in the pharmacopeias. The most generally used preparation is a syrup in the making of which the characteristic constituents of lactucarium are removed as far as possible. This syrup has long been a stumbling block to pharmacists for, no matter how thoroughly the constituents of lactucarium were removed in the making of the syrup, the preparation was far less palatable than a certain proprietary, Aubergier's syrup of lactucarium, and worse still also less active. The mystery finally seems to have been solved, for the provisions of the Food and Drugs Act appear to have been the cause of a belated acknowledgment, namely that the syrup contains morphin.

In discussing a paper presented to the Pennsylvania Pharmaceutical Association by Mr. Louis Emanuel, president of the

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[1] *Western Pennsylvania Retail Druggist*, Oct., 1912.

Pennsylvania Pharmacy Board, on the futility of the pharmacists' efforts to convert lactucarium, a caoutchouc-like body to a syrup, the *Journal of the American Medical Association* (Nov. 9, 1912, p. 1732) concludes:—

"One of the advantages claimed for ready-made prescriptions over the made-to-order variety, or even over pharmacopeial preparations, is that they are more elegant in appearance and less offensive to the nostrils and palate. This is the common experience of physicians who, having prescribed some ready-made mixture, wish to change the dose of one of its constituents and write a prescription or ask their pharmacists to prepare a similar preparation. The inability of the pharmacist to prepare a preparation even approaching the original in appearance, color or taste usually leads to increased confidence in the skill of the manufacturer of the proprietary and a correspondingly decreased belief in the pharmacist's professional attainments. But these conclusions, although natural, are based on false premises. As the proprietary did not have the composition declared on the label, a mixture based on the formula differed more or less widely from the proprietary it was expected to resemble."

S.

Changes in Membership of County Societies.

The following reports have been received since the November JOURNAL was printed:—

ALLEGHENY COUNTY: *New Members*—Myrtle R. Feltwell, Sewickley; Paul H. Franklin, W. G. Hayden, Meyer B. Lichtenstein, Pittsburgh; William H. Langham, William E. Lawson, Homestead. *Removal*—Robert Butz from Ben Avon to Independence, Iowa.

ARMSTRONG COUNTY: *Removals*—Sharon P. Heilman from Prescott, Arizona, to 1521 E. Washington St., Phoenix, Arizona; Gus I. Slagel from Templeton to Carthage, N. C.

CHESTER COUNTY: *Death*—Claudius Galen Treichler (Univ. of Pennsylvania, '65) in Honeybrook, November 2, from heart disease, aged 72.

CRAWFORD COUNTY: *Removal*—William B. Skelton from Meadville to New London, Iowa.

DAUPHIN COUNTY: *New Members*—John Loy Arnold, Ralph E. Moffatt (by transfer from Luzerne Co.), Harrisburg.

DELAWARE COUNTY: *New Member*—A. Lovett Dewees, Haverford (Montgomery Co.).

ERIE COUNTY: *New Members*—Alexander C. Cameron, J. Elmer Croop, Scott D. Gleeten, Erie; Charles Carroll Waggoner, Corry. *Removal*—Martha Edith MacBride from Erie to Grove City (Mercer Co.).

FAYETTE COUNTY: *New Members*—George H. Edmunds, Connellsville; John F. McCullough, Whitsett.

HUNTINGDON COUNTY: *New Member*—Nell Wright Bartram, State Hospital, Kings Park, N. Y.

INDIANA COUNTY: *Transfer*—James S. Hammers to Montour County Society.

LANCASTER COUNTY: *New Member*—Dale Emerson Cary, Lancaster.

LACKAWANNA COUNTY: *Removal*—Daniel W. White from Wilkes-Barre to 101 N. Detroit St., Tulsa, Okla.

LUZERNE COUNTY: *New Member*—Ruth Mitchell Lance, Kingston. *Transfer*—Ralph E. Moffatt to Dauphin County Society.

LYCOMING COUNTY: *Removal*—Truman G. Wilkinson from Williamsport to 2110 E. Chelten Ave., Philadelphia.

MERCER COUNTY: *Removal*—Robert M. Hope from Mercer to Fredonia.

MONTGOMERY COUNTY: *New Member*—Charles Williamson Leiders, Cynwyd. *Removal*—John W. Groff from Harleysville to N. W. Cor. Broad and Tioga Sts., Philadelphia.

MONTOUR COUNTY: *New Member*—James S. Hammers, Danville (by transfer from Indiana Co.). *Removals*—Frank D. Glenn from Danville to Erie; George B. M. Free from York to Danville.

NORTHUMBERLAND COUNTY: *New Members*—Charles B. Forcey, Shamokin; Albert T. Poffenberger, Joseph C. Poffenberger, Sunbury.

PHILADELPHIA COUNTY: *New Members*—William H. Annesley, Dorothy Donnelly, John P. Emich, S. Norman Grahn, B. B. Vincent Lyon, James W. McConnell, Max Messing, Nathan F. Mossell, Ralph J. Melman, James W. Pettigrew, Abe Reiss, Samuel A. Savitz, Philadelphia; Howard K. Longshore, Glenside (Montgomery Co.); Elizabeth L. Pickett, Aldan (Delaware Co.); Edwin C. Town, Jr., Narberth (Montgomery Co.). *Resignation*—Frederick Prime, Jr., New York City. *Deaths*—Richard A. Cleeman (Univ. of Pennsylvania, '62) in Philadelphia, November 19, aged 71; John Stewart (Jefferson Med. Coll., '96) in Philadelphia, November 14, aged 40. *Removal*—Mary E. Allen from Philadelphia to Calhoun, Alabama.

SCHUYLKILL COUNTY: *Death*—Andrew P. Carr (New York Univ., Medical Coll., '72) in Shickshinny (Luzerne Co.), November 13, aged 76. *Removal*—George W. Farquhar from Osterburg (Bedford Co.) to Belleville (Mifflin Co.).

WESTMORELAND COUNTY: *New Member*—George Hiram Gillis, Youngwood.

Present membership 5862. S.

Payment of Per Capita Assessment.

Component county societies have paid their per capita assessment for the year September 1, 1912, to September 1, 1913, as shown below:

Oct. 1,	Huntingdon County	$ 70.00
Oct. 1,	Dauphin County	270.00
Oct. 2,	York County	188.00
Oct. 3,	Adams County	36.00
Oct. 3,	Allegheny County	1644.00
Oct. 3,	Carbon County	56.00
Oct. 4,	Westmoreland County	228.00
Oct. 8,	Warren County	100.00
Oct. 9,	Montgomery County	182.00
Oct. 10,	Lehigh County	146.00
Oct. 11,	Sullivan County	20.00
Oct. 17,	McKean County	92.00
Oct. 17,	Wayne County	58.00
Oct. 19,	Philadelphia County	2800.00
Oct. 22,	Northampton County	210.00
Oct. 28,	Fayette County	204.00
Oct. 30,	Butler County	88.00
Nov. 6,	Clarion County	70.00
Nov. 18,	Jefferson County	126.00
Nov. 22,	Venango County	98.00
Nov. 26,	Erie County	176.00
Nov. 27,	Chester County	120.00
Dec. 5,	Armstrong County	128.00
Dec. 7,	Lancaster County	282.00
Dec. 7,	Northumberland County	92.00

G. W. WAGONER, Treasurer.

STATE NEWS ITEMS.

BORN.

To Dr. and Mrs. Russell A. Smith, Philadelphia, November 15, a son.

MARRIED.

Dr. Frank D. Glenn, Erie, and Miss Mary Gearhart, Danville, recently.

Dr. Earl Rogers Whipple, Steelton, and Miss Jean Isabelle Newlands, Buffalo, October 23.

Dr. Adrian Van Bracklin Orr, Chester, and Miss Bish Beulah Lamb, at Tyner, N. C., October 17.

Dr. T. Palmer Tredway, Erie, and Miss Caroline Buffington, in Baltimore, Md., November 16.

Dr. Nathaniel A. Fischer, Pittsburgh, and Miss Lorraine Lucile Sloman, Detroit, Mich., November 28.

DIED.

Dr. Jacob E. Ernest (Jefferson Med. Coll., '92) in Johnstown, November 1, aged 48.

Dr. O. W. Bean (Eclectic Med. Coll., Cincinnati, '77) in Sheakleyville, October 29, aged 60.

Dr. James M. McCurdy (Long Island College Hosp., Brooklyn, '72) in Black Lick, November 17, aged 67.

Dr. Benjamin F. W. Urban (Univ. of Pennsylvania, '69) in Lancaster, November 3, from angina pectoris, aged 66.

Dr. Samuel M. Cleveland (Hahnemann Med. Coll. and Hosp., Philadelphia, '75) in Philadelphia, November 23, aged 75.

Dr. Franklin R. Gerhard (Univ. of Pennsylvania, '69) of Douglassville, in Reading, November 14, from heart disease, aged 69.

Dr. Edward Payson Small (Homeopathic Med. Coll., Philadelphia, '66) in Philadelphia, November 16, from senile debility, aged 83.

Dr. Samuel J. T. Ritter (Eclectic Med. Institute, Cincinnati, '97) in Bethlehem, December 4, from compound pneumonia, aged 36.

ITEMS.

Dr. John W. Luther is the first burgess of the new borough of Palmerton.

Diphtheria in Chester. An epidemic of diphtheria has necessitated closing some of the schools.

Dr. Ross Hall Skillern has been made professor of laryngology at the Medico-Chirurgical College.

Reciprocity. Pennyslvania now has reciprocal relations with Delaware, Illinois, Indiana, Louisiana, Nevada, New Jersey, Ohio, Vermont and Wyoming.

The Hospital of the Woman's Medical College of Pennsylvania held its sixth annual bazaar and supper at the college building on the evening of December 7.

Thursday, November 21, was observed as Hospital Tag Day in Chambersburg, Franklin County, for the Chambersburg Hospital, and $800 was paid by those tagged.

Dr. L. D. Ranck, Milton, has been elected vice-president of the University of Pennsylvania Alumni Association for the Counties of Northumberland, Union, Snyder, Montour and Columbia.

The State Commission of Health has just established a new Tuberculosis Dispensary at 1126 South Twenty-sixth Street, Philadelphia. This is the 116th dispensary now in operation in the state. Dr. Sydney J. Repplier has been placed in charge.

Typhoid Fever at Elizabethville. Twenty-two cases of typhoid declared traceable to a case of typhoid, which occurred on a stream near a dairy last August, were reported up to November 18. The dairy, whose owner is down with the disease, has been closed.

The Harrisburg Academy of Medicine celebrated the seventeenth anniversary of its organization, November 29, with a banquet at the Harrisburg Club and an address by Dr. John B. Deaver, Philadelphia. Dr. Hugh Hamilton recited some original verses entitled "After Thanksgiving."

Arrested for Criminal Misuse of U. S. Mails. A nation-wide crusade against the misuse of the mails for promoting criminal medical practice and the sale of drugs and instruments culminated in the arrest on October 20 of 112 doctors, druggists and agents. Five of the parties were from Pittsburgh and one, Dr. D. Frank Kline, from Lancaster.

The West Philadelphia Hospital for Women has planned for a new maternity building to cost fifty thousand dollars. The maternity wards of this hospital were opened some years ago and the demand upon them for free and pay patients has entirely outrun their accommodations. There is a growing tendency, in Philadelphia, for pregnant women to seek hospital care during confinement.

Physicians' Motor Club. At the meeting on November 12, Director of Public Safety George Porter delivered an address, explaining the new police regulations for the guidance of traffic in the streets of Philadelphia and besought the earnest coöperation of physicians in his efforts to make the streets safer for pedestrians. Before the meeting, Mr. Porter was the guest of the officers of the club at dinner.

W. B. Saunders Company, medical publishers, are now established in their new seven-story building on West Washington Square. Constructed of reinforced concrete, the building is absolutely fireproof and equipped with every modern aid for the manufacture and distribution of medical books and for the comfort and convenience of their employees. A cordial invitation is extended the profession to inspect the new plant.

The Philadelphia Alumni of the Medical Department of the University of Pennsylvania held its fall smoker at the Bourse, November 16. There was a large attendance. The members were entertained by a very vivid and explicit presentation of the Balkan situation, by Mr. Dorizaz, a Greek student in the Wharton School. Following this, Dr. William E. Hughes gave an illustrated talk of a recent trip to South America and across the Andes.

Dr. E. G. Abbott of Portland, Maine, gave a demonstration of his unique method of the correction of curvature of the spine, in the Jefferson Hospital, on November 12. The method was witnessed by a large number of physicians of the city, including all the prominent orthopedic surgeons. After the clinic, the guests were entertained at luncheon by Dr. H. A. Wilson, professor of orthopedic surgery of the Jefferson College, to meet Dr. Abbott and the president of the American Orthopedic Society.

The Western Pennsylvania Hospital for the Insane at Dixmont closed its fiftieth year on November 11, 1912. In its fifty years, the hospital has admitted 11,568 patients, of whom 2969 were discharged as completely cured and restored to health and 3424 patients were discharged, having shown marked mental and physical improvement. In this fifty-year period, 980 were discharged, upon whose diseases the patient care, constant nursing and special medical skill given them had apparently made no impression. A total of 3203 died at the institution.

Dr. Richard A. Cleeman died suddenly, November 19, at his residence, 2135 Spruce Street. He was seventy-two years old and had been practicing medicine for fifty years. After his graduation, he served as a surgeon in the Union Army. Besides being a member of the Philadelphia County Society, he belonged to the College of Physicians, the Pathological Society and various other medical societies. Dr. Cleeman has left fifty thousand dollars to the University of Pennsylvania. This sum will be used for the construction of a dormitory to be named after Dr. Cleeman's brother, Ludovic Cleeman.

The Rush Society established through the initiative of the Medical Department of the University of Pennsylvania, was organized November 2. Its objects are the diffusion, by lectures, of knowledge concerning recent advances in medical and in biologic sciences and public hygiene. Dr. Richard M. Pearce was elected president; Dr. Alfred Stengel, vice-president, and Dr. William Pepper, secretary-treasurer. It proposes to present during each academic year six or eight lectures, the first to be given in January. Arrangements have already been made for lectures by Dr. Theodore C. Janeway, Columbia University, and Dr. M. J. Rosenau of Harvard.

The Philadelphia Pediatric Society was, on November 12, the host of the New Jersey Pediatric Society, New England Pediatric Society and the Section on Pediatrics of the New York Academy of Medicine. During their visit, the pediatricians were taken to several of the hospitals of the city, including the Weidner Home for Crippled Children and the Philadelphia Hospital for Contagious Diseases. The guests were entertained at a dinner at the Union League and in the evening the following program was carried out: "Treatment of Hemorrhagic Disease in the Newborn," Dr. Beth Vincent, Boston; "Pyloric Obstruction with a Comparative Study of the Normal Stomach of Infants," Dr. Godfrey R. Pisek, New York; "An Objective Method of Teaching Food Values and Food Requirements," Dr. Clifford B. Farr, Philadelphia, with a demonstration of Dr. Farr's fine exhibit of foods; "A Method of Scoring the Viability of Infants under the Care of Hospitals and Infants' Welfare Organizations," Dr. Henry L. Coit, Newark.

GENERAL NEWS ITEMS.

A Permanent Exhibit on Sanitation and Hygiene is proposed by Surgeon General Rupert Blue, as he believes that it would be of service in educating the public in matters relating to hygiene and sanitation.

Venereal Diseases to be Reported in Michigan. The Michigan state board of health on October 11 decided that syphilis and gonorrhea should be reported to health officers and by them to the state department of health.

Dr. Abraham Jacobi resigned, November 7, as a trustee of the New York Academy of

Medicine. His wishes were considered and the resignation was "accepted with sincere regret and the heartiest wishes for his good health and happiness in the future."

Colonel Gorgas Honored. The Royal Society of England, on November 15, recognized the remarkable sanitary administration of the works of the Panama Canal by awarding its Buchanan medal to Colonel William C. Gorgas, U.S.A., chief sanitary officer of the Canal Zone.

New and Nonofficial Remedies. Since November 1 the following articles have been accepted for inclusion with New and Nonofficial Remedies: Afridol, afridol soap, cycloform, (Farbenfabriken of Elberfeld Co.); hexal, hexal tablets, (Riedel and Co.); glycotauro, glycotauro capsules, 5 grs., glycotauro pills, 1 gr., (Hynson, Westcott and Co.); mercurial ointment improved, capsules mercurial ointment improved, (H. K. Mulford Co.); novatophan, novatophan tablets, (Schering and Glatz).

Dr. J. F. Anderson, director of the Hygiene Laboratory at Washington, was a witness before the State Vaccination Commission, on November 29. Dr. Anderson was strongly in favor of vaccination. He stated that contamination of the vaccine lymph by tetanus germs is exceedingly rare, as has been shown by the examinations of lymph in his laboratory. He further stated that even should a person be vaccinated with infected lymph, it is almost impossible for tetanus to develop from such infection. This statement is borne out by experiments made upon monkeys and guinea pigs with lymph infected with the tetanus bacilli.

Sanitary Science at Tulane University, New Orleans. Three series of courses in sanitary science were started at Tulane this session, for medical science and engineering students specializing in sanitation. The medical graduate in this course expects to become the health officer on boards of health; the science graduate becomes the expert on sanitary biology and the engineering graduate will eventually design, build and care for structures for sanitary purposes. In the senior class of the sanitary engineering course instruction will be given in water supply, framed structures and reinforced concrete construction by Professor Donald Derickson, recently professor in postgraduate courses in reinforced concrete at Cornell University. Instruction and laboratory work in sanitary microbiology will be given by Professor Creighton Wellman and his assistants in the School of Tropical Medicine.

The Third Annual Clinical Congress of Surgeons was held in New York November 11-16, with a registration of 2600. The first congress was held in Chicago in November, 1910, and the second in Philadelphia in November, 1911, with Dr. Albert J. Ochsner, Chicago, president. At the Philadelphia congress Dr. Edward Martin, Philadelphia, was elected president for the New York congress, and at New York Dr. George Emerson Brewer of that city was elected president for the next congress which will be held in Chicago in 1913. The congress appointed two important committees: One to favor public instruction regarding the nature of uterine cancer and the need of early diagnosis and early operation in this disease; the other to consider the matter of a special surgical degree to be given by the colleges only after a special course of postgraduate study, and that the right to practice major surgery be granted only to the possessor of such a degree.

COUNTY BULLETIN EXCERPTS.

The Bulletin, ALLEGHENY.

THE REGULATION OF FEES. H. Hays emphasizes the following points which the physician should keep in mind in regard to the regulation of his fees and the collecting of these fees: (1) Fees should be regulated according to the character of the work done and the time consumed in doing it. (2) There should always be a maximum fee for the rich patient which can be scaled down to nothing for the poor patient. (3) The high cost of living should make one aware that it is time that the size of this maximum fee should be made higher, so that the physician's income will be commensurate with increased expenditures. (4) The family physician or general practitioner should receive more consideration than he does at present from his patients in regard to payment for the work he performs.

The Bulletin, BLAIR.

CONTENTMENT.

Other Doctors all seem busy,
  You are loafing on your couch?
Never mind, your day is coming—
  Get a grin on, cut the Grouch!

Is he dashing like the devil
  Past your silent office door?
Let him go, he's welcome to it!
  Your day is coming, don't get sore!

That man's got his list of patients,
  Folks who tried him, found him true;
When they're ill they all stick to him,
  Just as your folks stick to you.

It often happens in your practice
  That for weeks your rest is slim,
Patients all get sick together;
  That's the way it is with him.

Then there comes a lull in business,
  For a time the work is ended;
Else how could your tired body
  Get the rest that God intended?

How could you do ALL the business
  In the town, and 'round about?
Be thankful for the other doctors,
  Be glad they're here to HELP YOU OUT!

So when the others all are busy,
  And you're loafing on your couch,
Think of what you'll do next winter—
  Get a grin on! Cut the Grouch.

Medical Monthly, Bucks.

When You Think you have got to say something mean to somebody or explode, you had better take chances on exploding, because you are sure to find out, if you have any sense, that you were mistaken. There is not half as much danger of a man exploding as of making a fool of himself. The writer knows, because he has never exploded, but he has sometimes done the other thing, and he has always felt worse than when he kept his mouth shut and took chances on exploding and didn't.

The Reporter, Chester.

The Holding of a Public Meeting for such a purpose marks a new departure in the practice of the county society and suggests that hereafter the society contemplates taking a hand in shaping public opinion on matters of public welfare. Such matters as defective sanitation, the abuse of athletics, the deplorable use of patent medicines and other nostrums are subjects that a medical society might properly bring to the notice of the public. Such a practice, if wisely administered, would help to form a correct public opinion and at the same time would promote the standing and influence of this society and of the medical profession in general.

The Bulletin, Lycoming.

There Are Three Sources from which a physician may continue to gain information pertaining to his profession, his patients, books and journals, and other members of the profession. He who depends on experience alone is likely to remain narrow; he who adds much reading to his experience does well; but he who learns what he can from experience and reading and in addition avails himself of every opportunity to learn from personal contact with other physicians, gets the broader view. The medical society furnishes the best and most convenient means of interchange of ideas.

Weekly Roster, Philadelphia.

"Go Tell Other Girls." The report of the Pennsylvania Society for the Prevention of Social Disease for 1911 mentions, on November 6, 1908, a public meeting conducted by prominent women of Philadelphia, who fully discussed the question, "Have women and girls a right to the facts regarding social disease? If so, how can they best obtain them?" The addresses of these representative women have been published in pamphlet form, answering once and for all the question as to whether women desire to know the facts. This pamphlet, "Go Tell Other Girls," has been distributed among all classes of people, largely in response to individual requests for from one to five hundred copies. Only the lack of funds has prevented an unlimited distribution. Requests have been received almost daily from distant points in this country and Canada. The pamphlets have been sent as far west as San Francisco, as far south as New Orleans, and as far north as Quebec. Many requests have been refused because of lack of funds to cover the cost of printing and postage.

COMMUNICATIONS.

A PRECOCIOUS YOUTH.

Easton, Pa., Nov. 30, 1912.

My dear Dr. Stevens: Homer must have nodded or you have overlooked a most remarkable condition of affairs in a little news item in the November number of the Journal.

I can call your attention to it more vividly by reciting an incident that happened not long ago in the Parisian Courts. You know in France the witnesses are required to state their age. A lady was called to the witness stand and gave her age as twenty-five. The next witness, a young man, said he was twenty-two years old, and when asked what relation he bore to the witness immediately preceding him he said he was her son, whereupon the Judge replied, "Your Mother must have been married quite young."

You state in the Journal that Dr. William H. Robinson (Univ. of Pennsylvania, '68) died in Pottsville on November 4, aged forty-five. Surely, a youth precocious enough to celebrate his first birthday by graduating from the University should receive a more extended notice than this.

You know that I know that these little errors are very difficult to catch but this made so good a one that I could not refrain from having a little sport with you.

Charles McIntire.

The above good-natured letter from Dr. McIntire, himself a medical editor, is reproduced for several reasons:—

1. To call attention to the error and state that the age of Dr. Robinson should have been given as 67.
2. To emphasize both the importance of publishing accurate statistics and the difficulty of securing the same, not to mention the many ways in which errors may occur after correct information has been forwarded.
3. To request secretaries, reporters and others to furnish news items for publication and with as full particulars as is convenient. The Journal can publish only such news as it has received.
4. To say that the editor always appreciates kindly criticisms, corrections and suggestions. It is desired that the Journal shall be accurate, and kindly criticisms really encourage the workers by showing that the columns are read and that they are expected to be reliable. —Editor.

PROGRAM FOR PHILADELPHIA SESSION.

To the Editor: In looking over a copy of the *Chester County Medical Reporter* for November, I find an article on the state medical society's meetings which interested me. The contents are about as follows: The majority of men in attendance at the state meeting are general practitioners who are there with the idea in view of brushing up in medical and surgical subjects and exchanging views and ideas with their colleagues in neighboring counties. As long as this feature holds true, the meetings will be a great success, but as soon as the meetings resolve themselves into an outlet for pent up efforts on special lines, it will cease to appeal to the general practitioner. Not because the work of the scientific man is not valuable, but because the general practitioner feels himself drawn beyond his depth and unable to make use of the information presenting.

As chairman of the Surgical Section, I can hardly let this go unanswered. This is precisely what the section expects to do, and we wish to have one of the largest attendances possible. We expect to prepare a program that will be instructive and interesting to the general practitioner. If the plans are carried out as outlined, I am sure that it will pay every practitioner to be present at the next meeting. He will go home better prepared to do the country at large much good.

At some future date we will give through the JOURNAL a complete outline of what the program will be. J. B. LOWMAN.

Chairman of Surgical Section.

SOCIETIES.

PHILADELPHIA LARYNGOLOGICAL SOCIETY.

Meeting of October 29, Dr. Ross Hall Skillern in the Chair.

Apparatus for Illuminating the Accessory Sinuses of the Nose. Dr. E. B. Gleason: The little apparatus, in fact a vest-pocket edition, is very simple in its construction and quite inexpensive. It consists of an ordinary "everready battery" obtained at the hardware shop. The incandescent lamp is detached and in its place is attached a long tube containing ordinary lamp. It was demonstrated that the frontal sinus could be thoroughly illuminated; maxillary sinus could not be seen as well, however, as frontal. There is also an attachment to be placed in the ordinary mirror for examination of larynx and nasopharynx.

Resection of the Ascending Process of the Superior Maxilla in a Case of Nasopharyngeal Fibroma, Death Immediately Following Operation. Dr. Ross Hall Skillern: H. B., aged fourteen, was brought to me in consultation as a case of sarcoma of inferior maxillary. Examination showed left naris completely occluded by a granulating mass which bled profusely on the slightest manipulation with the sound. A copious, slightly fetid serosanguineous discharge was present on the affected side. In nasopharynx a large, smooth, rounded mass hung down to lower edge of the palatal folds completely occluding the entire choanae. This condition had been present for more than a year, but in the last few weeks had become greatly augmented. Previous treatment had consisted in cauterization of nasal portion which almost protruded from the nares. In all, perhaps a dozen cauterizations had been made. Profuse hemorrhages which followed these applications caused his physician to make the diagnosis of sarcoma.

Present condition: Thin, anemic boy; asymmetry of face; typical mouth-breather. All upper teeth had fallen out. I advised immediate operation which attending physician endorsed and it was agreed to by family. Patient was placed in hospital and carefully prepared for operation the following day. Operation: Morphin, 1-6 grain, and atropin, 1-200 grain, were administered hypodermatically. An incision was made from internal angle of the eye along the side of nose to median line below left nostril. Hemorrhage was free but not profuse. After elevating periosteum to pyriform aperture and over antrum, a portion of ascending process of superior maxilla was resected until mucosa of nose was bared. Maxillary sinus was filled with a gelatinous substance, in all probability a mucocele. The bone in this region was necrosed, apparently from pressure, as no sign of sarcomatous involvement was to be found. After incising nasal mucosa the true nature of the tumor was apparent as a large glistening white mass occupied the entire nasal chamber, pushing septum toward opposite side, but was apparently lying free in the cavity as no attachment could be found anteriorly. On passing the finger backward, dense adhesions were felt in the spheno-ethmoidal region laterally. The index finger of other hand was inserted into the choana and it was noted that the attachment extended along inferior surface of body of sphenoid. Patient's condition up to this time had been very good, heart 130 and breathing normal, no blood having escaped into the larynx. Dissection by means of finger and a periosteal elevator finally loosened the attachment of the tumor, and it was removed entirely through anterior opening. Considerable hemorrhage immediately followed removal, but it was soon controlled by tampons. As we were about to insert the packing and suture, patient suddenly ceased breathing. He was quickly turned on side, a mouth gag inserted and the throat swabbed out, although he had not once coughed nor was cyanosis marked. Only faint spasmodic efforts to breath were made showing that respiratory inhibition was central rather than peripheral. The heart was weaker although regular and not accelerated. Hypodermic of atropin and whisky were given and the sphincter was dilated, but without influencing the respiration. A quick tracheotomy was performed and the trachea wiped out as far as the bifurcation; some clotted blood appeared on the gauze. Artificial respiration and oxygen were continued and, although the lungs would not act automatically, the heart continued even stronger than previously. No sign of cyanosis was present, patient being pale. Artificial respiration was continued for about fifty minutes when heart suddenly ceased to act. Critically reviewing this case, it is a difficult matter to arrive at the precise cause of death.

The preparation of the patient was faultless, the ether administered by an expert anesthetist (Dr. H. M. Goddard) and, although the operation lasted nearly one hour and three quarters, a trifle more than one can (¼ lb.) was used. No undue traumatism was caused in removing growth and, as far as we could judge by feeling, it had not penetrated into the cranial cavity. The hemorrhage, while at times profuse, was always quickly controlled. Considering these facts it was decided by those present (Drs. G. M. Coates and William Menah) that death was due to paralysis of the respiratory center from the hypodermic of morphin administered previous to the operation. This may have been furthered by the small amount of inspired blood together with the lack of oxygen the patient received while manipulations were being made in the choanae. There was no question that the reflexes were abolished at that time for not once did patient cough or show sign of strangulation. An autopsy might have thrown some light upon this question but unfortunately one was not permitted.

Dr. Herbert M. Goddard, in discussing: In preparing the patient all preliminaries were carefully observed, and he appeared to be in good physical condition. One-half hour prior to starting the operation he received a hypodermic of morphin, 1-6 grain and atropin, 1-200 grain. Ether was administered by drop method, and but a little more than one quarter of a pound was used. Patient took the anesthetic without incident, and at no time prior to sudden cessation of respiration was there noticeable unfavorable manifestations or so-called "danger signals." Tracheotomy was promptly performed and then artificial respiration resorted to. The sphincter was dilated, hypodermic injections of restoratives were given, in fact there was employed almost every recognized method to restore respiration. Death was due to paralysis of respiratory center.

Dr. George Coates: Patient was well developed and appeared to be in good shape for an operation. After he ceased breathing, pulse was 130, regular and of good volume. Color was good. Death was not result of surgical shock, for in such a case the heart is affected, not respiration. I believe the cause of death was central paralysis.

Dr. Carl Rowand recalled a case strikingly similar. A boy was operated upon in one of our hospitals for removal of a fibroma in the nasopharynx. He was in good condition and mechanical obstruction was the only complaint. Ether was administered, and he died suddenly of respiratory paralysis.

Dr. E. B. Gleason: Enormous force is ofttimes necessary to remove such growths. I have resorted to the use of snare, galvanocautery and electrolysis, and at times I have succeeded in removing a large part of the growth, remaining stump disappearing spontaneously. Sometimes in these operations the hemorrhage is alarming.

Dr. Charles A. O'Reilly: Would it not have been wise to perform a low down tracheotomy as a preliminary? Operator and assistant could work with more deliberation with fingers in mouth and nasopharynx without fear of obstructing breathing.

A Case of Myiasis Aurium Accompanying the Radical Mastoid Operation. Dr. George M. Coates: The following case is thought to be of sufficient interest to justify a brief report.

L. H., fourteen years old, is a student in the Pennsylvania Institution for the Blind in Philadelphia. When four and a half years of age, following scarlet fever, he lost sight of both eyes and developed a chronic suppurative otitis media which in time destroyed hearing of his right ear and so impaired that of left that the loud-spoken voice could be heard only at a few inches distance. He has been under my care for the last five years; during this time the discharge of pus has not materially decreased, for during vacation time in summer he is accustomed to go to his home in the country where he gets no treatment at all, and so loses what little improvement he has made during the winter.

A radical mastoid operation was proposed several times, although not urged on account of his blindness and the very little hearing power remaining. It was refused until this summer symptoms of cholesteatoma became marked, and consent to operation was finally obtained. At time of operation, which was done in the Pennsylvania Hospital, mastoid process was found to be extensively excavated and a sinus had opened from the cavity of antrum into posterior wall of external canal. Ossicles and tympanic membranes had long since disappeared and a thorough and careful complete radical operation was done. Posterior incision was closed completely and cavity packed through meatus with plain sterile gauze. Aseptic technic was careful and painstaking throughout. As the boy made a good recovery from the ether and had a normal temperature, packing was not removed until third day. On removing this packing a very bad stench was apparent and some forty or fifty small maggots came away with the gauze or were washed out immediately afterwards. Ear was this time packed with iodoform gauze which was changed daily for a week and then omitted altogether and no more larvae were seen, the patient making an uneventful recovery.

The patient had spent the summer on a farm and entered hospital on Thursday, August 22, 1912, being operated upon on Friday; I had not seen him since the preceding June, until upon operating table. Ear had been douched in the ward without any larvae being discovered. Eggs must certainly have been in middle ear at time of operation, having been deposited by the fly while he was in the country, and in spite of what seemed a thorough operation a large number of them remained to develop into maggots. I am at a loss to know where they could have been unless in eustachian tube and dislodged upward by curetting, which was almost the last step of operation before ear was packed.

Dr. Gleason, in discussing: Larvae of domestic fly are often found in strange localities. I have seen living maggots in a normal auditory canal.

Dr. Levy B. Hirst, Camden, N. J.: Maggots were found in a patient's ear the day following an outing in country. He had taken a nap on the grass.

Dr. Skillern: Do flies give birth to living larvae? He once saw maggots protruding from the belly of a fly.

Dr. Coates: In answer to Dr. Skillern's question, there are the viviparous and ovarparous varieties of fly, former giving birth to living larvae, and latter depositing eggs in putrid material which, on the hatching of the eggs, in a few hours sustains the young larvae. The screw-worm fly, or Lucilia macellaria, belongs to the latter variety, and according to the Bureau of Entomology, Department of Agriculture, was probably the cause of this case of myiasis.

FREDERIC M. STROUSE, Reporter.

PHILADELPHIA POLYCLINIC OPHTHALMIC SOCIETY.

Meeting of October 10, Dr. Wendell Reber in the Chair.

Exophthalmos. Dr. William Campbell Posey exhibited a young man with marked proptosis of the right eye, probably in consequence of an orbital tumor. The eye was advanced 20 mm. more than its fellow, and showed all the signs of great stasis in the orbital circulation. An incision into the orbit some months previously, with excision of some of the tissue for diagnostic purposes, gave evidence of the simple inflammatory nature of the orbital cellulitis and it was thought to have proceeded from a periostitis. Its persistence, however, despite constitutional remedies, lead him to fear a neoplasm. X-ray and rhinological studies will follow. Dr. Posey spoke of the value of the Kronlein procedure for the removal of the growth from the apex of the orbit and said that in the former cases in which he had made use of this method, there had been practically no scarring.

Dr. William Zentmayer: In regard to the diagnosis, there was complete fixity of the globe with a palpable mass above and below. It is six months since we first saw him and it has scarcely increased; the vision also remains the same. I doubt very much if the Kronlein operation would remove the growth. The degree of exophthalmos has no relation to the size of the growth. I think the one point in favor of involvement of the optic nerve is the man's age. There is no more difficult diagnosis in ophthalmology.

Dr. Reber: If a small growth is situated inside the muscular cone, that of itself will produce a great deal of edema and produce an exophthalmos out of all proportion to the size of the growth. I think this is an inflammatory growth and would say that a Kronlein is justified.

Dr. Posey: My own view is that there is a growth inside the maxillary bone and my intention is to make a Kronlein if there is. I never get ready for any operation of this kind without having everything ready for a Kronlein operation. In all probability there is a sarcomatous growth which involves the maxillary bone giving rise to marked inflammation of all the surroundings of the bone.

Dr. Luther Peter spoke of a man of sixty-two, who about four years ago had a growth removed from one of his tonsils which recurred. Shortly after this he began to have, just as we have here, complete palsy of all the eye muscles. The x-ray showed that there was an inflammatory growth in the orbit evidently secondary to the tonsilar condition.

Associated Conjugate Paralysis. Dr. Posey gave the notes of an associated conjugate paralysis of the movements of both eyes to the left, which he had found in a one-year-old child. The condition had followed a slight fall, but was thought by Dr. Posey and Dr. McCombs of the Children's Hospital staff, who had seen the case with him, to be independent of this, and a manifestation of infantile palsy. There were no other ocular or general symptoms.

Dr. McCombs spoke of a case of acute anterior poliomyelitis in an infant five months of age, seen at the Children's Hospital, in which the third and seventh cranial nerves on right side were permanently paralyzed, an initial left-sided palsy of the arm and leg clearing up. In his case the symptoms came on suddenly, following slight fever and diarrhea. The case had been shown before the Pediatric Society on account of the unusual distribution of the palsy in acute anterior poliomyelitis. He suggested that in Dr. Posey's case there were many points of similarity in the onset, subsequent history and peculiar nerve involvement. He thought acute anterior poliomyelitis should be considered as a possible cause for the eye condition.

Dr. Peter: Associated palsy in infants is very rare. In eleven months of neurologic practice I never saw it. There must be some reason in the cortex for the condition. It may be that the fall brought about this cortical state.

Dr. Reber: Dr. Peter's hypothesis is a possibility in Dr. Posey's case. We are teaching that the associated movements are represented more in the cortex. It seems to me there is a great deal of clinical evidence of the existence of cortical areas for associated movements.

Dr. Zentmayer: In a case reported by Snell, first upward movement of one eye was affected; this afterward became palsy of associated movement upward.

Buphthalmos. Dr. Zentmayer: This specimen was removed from the eye of a colored child in the spring. Proptosis was extreme. The diameter of the cornea was eighteen mm., the anterior chamber very deep. The other eye showed no involvement. He also referred to the case of another little girl who had buphthalmos of both eyes. A great deal of vitreous was lost in the operation done for relief of the disease. The condition of uniform distention of the eyeball is one that is seen almost entirely in infants. In this case the child was three years of age but the buphthalmos had been noticed only three months before. In such eyes the distention is uniform. The cornea becomes large and increases in diameter. The lens is often dislocated. There are some few cases in which the process has been arrested but they usually go blind. Surgical interference is almost always unsatisfactory. Once you open the eye the vitreous comes forward and often escapes. Iridectomy has not been a very satisfactory operation. I might say I have seen five cases and two out of the five have been colored children.

Dr. Posey; I think there can be no doubt that buphthalmos arises in intrauterine life, and is doubtless dependent upon some inflammatory condition of the mesoblastic tissues, as they push their way in between the epiblastic layers of future lens and corneal epithelium. The anterior chamber is so blocked that the eye in its growth is stretched. I think I have seen cases of buphthalmos in advanced child life, that is to say five to ten years of age, but I never saw one in adult life. I believe the patients all lose their sight. The next case I get I think I shall do a posterior sclerotomy first and then do an iridectomy later. In many of these cases the iris is very hard to get out. Even if you get out the tip (or pupillary edge) it will do no good; you must get out the rest of the iris back in the angle of the anterior chamber. I do not remember having had a case of successful iridectomy in buphthalmos. I think, however, that myotics offer a good chance for help.

Dr. Reber: I have seen three cases of buphthalmos and two of them had very large corneae (13 to 14 mm.). In the case of a boy (whom I have not seen for three years) there was then vision of 5/60. The family would not consent to operation. Another case was a bilateral one of a child of about two years. In that case there was a slight coloboma of the iris. The third case was in a little girl of about two years and was a unilateral one. In view of all the difficulties of iridectomy in these cases I feel that on the next one that comes under my observation I shall do Elliott's operation of trephining.

Dr. Harbridge asked if it had been observed if this condition presented itself at any particular period or does it generally begin at the time of birth?

Trephining for Glaucoma. Dr. Reber presented three cases illustrating the results following Elliott's trephining operation in two cases of glaucoma. One was in a young man of twenty-seven who four years previously had had a violent blow upon the eye with consequent blindness. For four years the eye had been sightless but quiet. There was acute inflammatory glaucoma of two weeks' duration, nonyielding to drug treatment. Trephining was done under local anesthesia with complete relief to all the symptoms.

One was in a seventy-five years old man with typical acute inflammatory glaucoma of two weeks' standing that had not yielded to the most comprehensive drug treatment. Vision equaled counting fingers at three feet. Trephining was done under local anesthesia and twelve days after operation the vision had risen to 5/20, and the eye was perfectly quiet. In the other case, chronic noninflammatory glaucoma had existed for years. The eye was absolutely blind and had been for years intermittently painful and miotics had lost their effect. Trephining was done under local anesthesia and the result as to pain has been perfect. Dr. Reber feels that the operation of trephining has much to recommend it and is impressed with the complete reduction of tension it effects, also the freedom from gross hemorrhage after the operation, the unaltered or slightly altered pupil and the simplicity of performance.

D. Forest Harbridge, Secretary.

Visitor.—I just looked in to cheer you up a bit, and I'm very glad I did, for I met the doctor going out, and he says you're worse than you think, and unless you keep up your spirits, you can't recover.—*London Opinion.*

COUNTY SOCIETY REPORTS.

Reports should be necessarily brief presentations of scientific facts and professional news. To insure publication these should be received within fifteen days from date of meeting, although it is sometimes necessary to hold over some of them for want of room.

BUCKS—November.

The annual meeting of the Bucks County Medical Society was held at Doylestown, November 13, with a good attendance and President Swartzlander presiding. Officers were elected for the ensuing year.

Dr. Swartzlander delivered a brief lecture on the hypodermic use of pituitrin, an animal extract, as a substitute for ergot.

By special invitation, Dr. William H. Hartzell of Allentown delivered an inspiring address upon the many sacrifices made by the profession as investigators in alleviating disease and misery. He told how various plagues had devastated nations and later been conquered by physicians; how smallpox and yellow fever were controlled and how cholera had been banished from all civilized countries; he related how contagious diseases were lessened and controlled by sanitary measures and what eminent results were obtained by the physician's scientific researches. He described in a beautiful portrayal how the United States banished yellow fever and how by employing the proper sanitary measures, with doctors at the head of the bureau, it became possible for the government to build the Panama Canal. He concluded by paying a beautiful tribute to the nobility of the self-sacrificing profession for the benefit of mankind.

Anthony F. Myers, Reporter.

CHESTER—November.

The meeting of the Chester County Medical Society was held November 12 in the West Chester High School, with three hundred present including a full turnout of the members of the medical society, and, as invited guests, members of the Homeopathic society, Chester County representatives to the Legislature, directors of the poor, school directors and principals of the schools, members of Children's Aid Society, the New Century Club and those interested in the management and care of the feeble-minded and epileptic.

The program committee for 1913 will consist of Drs. Edward Kerr, Henry Pleasants and Harry A. Rothrock; committee on nominations, Drs. A. W. Baugh, D. Edgar Hutchison, O. J. Klevan, W. W. Woodward, U. G. Gifford.

The meeting was devoted to the study and care of the feeble-minded and epileptic. Dr. U. G. Gifford presided and extended greetings to the large audience and told of the great necessity of familiarity with this subject. But ten years ago the proportion of these unfortunates was one half of one per cent. of the population, to-day it is one per cent. and gradually increasing. These people are more prolific than the normal; there is but small provision for their care, they are not self-supporting, they are a drain on our resources, and add largely to the criminality of the state. He urged the necessity of legislative enactment on the subject and the importance of all well-thinking people demanding this legislation.

Dr. H. H. Goddard, of the New Jersey State Training School at Vineland, instructed the audience for one hour on the "Heredity of Feeble-Mindedness and Its Specific Tests." He said the question of mental deficiency has recently received an entirely different status because of the entirely different class of people who are considered to be deficient.

Is it like some new disease coming to the front, people ask; is it increasing or has it always existed and just now being recognized? Human beings belong to various levels in their mentality; for example, the Edwards and Adams families who have given to the world one great man after another. There are various grades of degeneracy; some children who at first seem subnormal may be trained to be self-supporting, but the child in school who after nine years of age is three years back of his grade is in nearly every case one whom no manner of training can bring up to normal condition. These must be cared for in some way; they are not capable of caring for themselves, and present facilities are inadequate not only in our state but in others.

There should be special rooms in our schools for backward children, where they may have special instruction and training in work which they are capable of doing; many of these after a little work will be ready to go on with their classes. Provisions for these cases will be made compulsory at some future time. People must be taught to look upon the placing of these children in special schools not as a punishment or stigma but a kindness to them, a protection against injustice, cruelty and contempt which they too often meet if left to face the world alone.

Investigation shows that two thirds of the feeble-mindedness comes by inheritance, one third due to accident, illness and disease. Dr. Goddard quoted statistics to show the certainty of inheritance, going back as far as seven generations. He cited one case of a feeble-minded woman with seven illegitimate daughters who was married and gave birth to five more children, then divorced and married a second time and had more children, with the result that 1700 are in relation to this family and 300 of these are feeble-minded, beside a great number of alcoholics.

Many feeble-minded children look as bright and as intelligent as a normal child. It requires careful testing as to ability to reason, to grasp an idea, to concentrate the attention in order to determine whether they are up to par mentally. These defectives are impulsive and affectionate, usually tractable and obedient when properly treated. The trouble is they do not grow mentally. One of the great causes for the increase for feeblemindedness is the reversing of the law of nature, "The survival of the Fittest." In years gone by the imbecile, the weak, the diseased, died off usually in infancy, now we do all that we can to prevent infant mortality. That is right; we should save every life that we can but, having saved it, we should take care of it if the individual is not able to take care of himself and we should not let sentimentality stand in the way of protecting the community from the effects of the untrained, unrestrained imbecile.

Dr. Martin W. Barr, superintendent of the Pennsylvania Training School at Elwyn, read a paper on "Asexualization, Segregation, and Marriage Restriction of Feeble-minded." There are in the state 15,000 feeble-minded, 3000 of whom are receiving institutional care and teaching, leaving 12,000 at large to propagate their kind. The ancient Greeks controlled marriages and training of children by law, the result was a race of beautiful, healthful right-minded men and women. Legislation should be passed compelling the prospective husband and wife to present to the clergyman a clean, moral, mental and physical bill of health from a reputable practicing physician; no doubt as a result of this law in years to come our juvenile court, divorce court, jail and penitentiary would not be crowded with inmates. A number of states have already passed laws prohibiting the marriage of the feeble-minded and in some epilepsy is barred. The speaker strongly advocated asexualization as a means of checking the increase of feeble-mindedness (castration or tying off of vas deferens in male, ovariotomy or ligating Fallopian tube in female); he also urged segregation in every instance where it is at all possible to secure the commitment of children to institutions.

Drunkenness and immorality are not only the cause of physical but of mental disease, and the helpless victims of parental sin deserve the care and protection of all Christian people.

Dr. H. M. Carey, superintendent of the Pennsylvania Training School at Spring City, spoke on "The Institutional Care of the Feeble-Minded." These unfortunates need, first, a home where they may live as full, happy lives as their condition will permit. Such an institution should be a community within itself, with ground sufficient to produce most of the food, but also to give ample recreation and pleasure; an estimate of the amount of ground advisable to do this is one acre per inmate. The inmates must be trained to do most of the actual work, and are far happier if they are interested in the farming, the dairy, the care of the chickens, pigs and garden, and other industries which may include the manufacturer of their shoes and clothing, but manufacture of articles for sale is not advised.

The feeble-minded and epileptic should not be kept in the same quarters; it is hard on the epileptic, for epilepsy is a disease, not a defect, and the victim is often made most unhappy if compelled to associate with the feeble-minded. Adults and children should also be kept apart as adults often have habits which are a detriment to them and which may be acquired by the children.

Dr. Carey made an earnest plea for well-built institutions with large airy rooms, well-ventilated sleeping apartments, and particular attention to bathrooms and lavatories. Above all things, keep these inmates happy for it is not safe to release them from custodial care. At Spring City, one night each week is set apart for entertainment; they have organized their own band and orchestra and everything possible is being done to make and keep them in an agreeable humor.

Essentials in an institution of this kind are (1) home colony by itself; (2) food, best that can be procured; (3) clothing, manufactured by themselves and ample to protect them; (4) medical care; (5) individual teaching, manual training for use about the colony; (6) entertainment. Dr. Carey then passed among the audience samples of needlework and embroidery done by the inmates which showed great skill.

The meeting adjourned after passing a vote of thanks to the speakers.

D. Edgar Hutchison, Reporter.

LANCASTER—October.

A regular meeting of the Lancaster City and County Medical Society was held October 2, President Rohrer and forty members responding. A paper on "The Uncertainty in Diagnosis of Upper Abdominal Diseases" was read by Dr. H. C. Deaver of Philadelphia. Among the more important diseases of the upper abdominal region may be mentioned cholecystitis, gastric and duodenal ulcer and acute and chronic pancreatitis. Pathognomonic symptoms of any of the diseases in this region are often wanting. This may be accounted for by the intimate anatomical relations which the pancreas, pyloric end of stomach and gall bladder have one to the other, and the fact that adhesions of any one of these organs would of necessity involve the others. For example, in from forty to forty-six per cent. of gastric or duodenal ulcers we have adhesions to the gall bladder or pancreas with a confusing train of symptoms. Seventy-five per cent. of gastric ulcers are near the pylorus. In a small per cent. of cases we have combind ulcers of pylorus and duodenum. Laboratory findings, while of practical importance, are often misleading, hence those who depend entirely upon gastric analyses and examination of the feces are often in doubt as to the true nature of the case. To be explicit seventy-five per cent. of patients with gastric ulcer, coming to the operating table, do not show hyperacidity. Occult blood in the feces is due to a variety of conditions and in no case is operation to be delayed because the laboratory findings do not agree with the history. Chronic appendicitis occasionally simulates gastric or duodenal ulcer in history and laboratory findings. The writer once saw a case of chronic appendicitis which resembled gall-bladder disease in so far that there was intense jaundice and clay-colored stools. Graham says that seventy per cent. of carcinomas of the stomach begin on an ulcer base and often the symptoms of cancer are almost wanting. Recently Dr. Deaver operated upon a woman, who had been suffering from "chronic indigestion" for a comparatively short time, and found an extensive carcinoma of the pylorus with secondary nodes scattered throughout the omentum.

Murphy classifies the symptoms as to importance as follows: (1) Pain, which always means pathology and should always be looked upon with suspicion. How soon after eating does it occur, or is it continuous? Is it relieved by taking food? Is it sharp or a dull aching? (2) Gaseous eructations are not without their importance. (3) Emesis and hematemesis are next in order. (4) Pressure. (5) Distress. These symptoms are important in diagnosing between the various diseases of the upper abdomen but often an exploratory laparotomy is necessary to clear the diagnosis. Too often when a patient complains of chronic indigestion the physician, without any attempt at an examination, puts it down as an acute or chronic catarrhal gastritis. These two diseases as primary conditions are rare but as secondary troubles are common. Most cases of chronic gastritis would, if followed, probably come to the operating table to have the gall stones, chronic pancreatitis, or ulcer, which caused the indigestion, corrected. Careful history-taking will often lead to the proper diagnosis. Do not treat symptomatically but look for the cause. It is true that the neuroses are often confusing, but careful supervision will often help us reach a diagnosis. In a case of chronic indigestion think first of gallstones, ulcer and pancreatitis and by careful observation and management you will in a great many cases be able to reach the proper diagnosis. The use of calomel and salts as a routine in abdominal cases is most emphatically condemned, and is often responsible for perforation, hemorrhage and other complications. Rather should the patient have physiological and anatomical rest and this can only be obtained by gastric lavage, morphin and the ice bag.

A vote of thanks was extended Dr. Deaver. Dr. J. L. Atlee spoke for a more complete history and physical examination in abdominal cases. The history is of more importance than the laboratory report and every physician should be capable of taking a careful and complete history.

Dr. J. H. Musser reported a fatal case ot eclampsia. Mrs. J., aged twenty-seven, family history good, married three years, seven months pregnant, became unconscious while milking. After this state, which lasted one hour, she complained of severe pain in head and back. Urine was of a low specific gravity but no albumin or sugar was found and, as she made an apparently perfect recovery, it was attributed to her hard work in the sun. At 10 A.M. on September 6 he saw the woman in labor; saw her again at 4 P.M. with typical first-stage pains, os well back, no dilatation. A hypodermic of morphin was given to relieve the pain. At 9:30 P.M. she passed a small quantity of urine for the first time that day; catheterization was ineffectual. At 10 and 11 P.M. she was given chloral; at a little after 11 she had a convulsion; chloroform and later veratrum viride were given. At 11:30 membranes ruptured. Pulse was reduced fifteen beats by five doses veratrum. In the morning Dr. J. L. Atlee, with axis traction forceps, delivered a large stillborn baby. Free bleeding followed the delivery of the child which ergotol failed to check. Stimulation was employed but she died at 9 A.M., after having had twelve convulsions.

Dr. Atlee reported a case of placenta prævia in which the patient after six months applied for hospital treatment because of the hemorrhage, but because of the insignificant amount of bleeding she was sent home. At term she was sent to the hospital after a severe hemorrhage. At the hospital the operator examined her, provoking a hemorrhage which a vaginal pack failed to check. She was given an intravenous injection to get some sort of a pulse, and was delivered, but she died in three hours. This case emphasizes the need of hospital treatment for cases of placenta prævia.

Dr. Frank Alleman reported a case of perforated pyloric ulcer; he saw the patient in complete collapse and operated but the patient died. Dr. Donald McCaskey gave his report of the state society meeting, which was most interesting. Resolutions on the death of Dr. Kreiter of Akron were read by Dr. Appel

WALTER D. BLANKENSHIP, Reporter.

LACKAWANNA—NOVEMBER.

At the last business meeting of the Lackawanna County Medical Society Dr. A. J. Winebrake, chairman of the Committee on Public Policy and Legislation, outlined the work of his committee in securing recent data against illegal practitioners in this county and reported that he and the committee had had a talk with the district attorney and would shortly bring action.

Drs. John Francis Kelly of Scranton and Robert Bliss Mackey of Waverly were elected members of the society; this makes four members who have joined our ranks within the past two months.

F. WHITNEY DAVIS, Reporter.

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ADDRESS.

THE TEACHING OF OPHTHALMOLOGY IN AMERICA.

BY WENDELL REBER, M.D.,
Philadelphia.

(Chairman's address delivered in the Section on Eye, Ear, Nose and Throat Diseases of the Medical Society of the State of Pennsylvania, Scranton Session, September 24, 1912.)

Now that undergraduate teaching is being put upon a sound and approximately uniform basis in this country, attention is rapidly focusing itself on the status of postgraduate teaching. Just what shall be the proper training of the special worker in the various branches of medicine or surgery is by no means a settled matter in the minds of the medical profession.

Particularly is this true as concerns the postgraduate teaching of ophthalmology. The great number of magazine articles in the past five years is sufficient evidence of the keen interest taken in the subject, not only by the general medical profession but especially by the ophthalmic body.

Those who have taught and written on the subject have allied themselves largely with one of three propositions: (1) Extension of undergraduate teaching with the end in view of turning out the graduate as a fairly well-equipped ophthalmic practitioner. Some have advocated a fifth year in the regular medical curriculum as absolutely essential to complete training in this branch of medical science as well as broadening the student in medical science in general. (2) To attempt by legislation to fix the conditions under which ophthalmic training shall be given. (3) To extend the term of postgraduate instruction to three months, six months, or even a year; in the event of the longer terms, the conferring of a degree in ophthalmology upon production of satisfactory evidence that the work has been properly done.

Extension of Undergraduate Teaching in Ophthalmology. The present allotment of sixty hours in ophthalmology in the senior year, fixed by the majority of American medical colleges (fifty by the Council on Medical Education of the American Medical Association), permits the student to gain fair familiarity with external eye diseases, a slight acquaintance with the ophthalmoscope, some understanding of the significance of the more important eyeground changes, a vague idea of the refractive status of the normal and the abnormal eye, a relatively definite idea of lenses and their use in the correction of refractive errors. Attendance upon ophthalmic operations and performance of these operations on animals' eyes may be added to the foregoing list; but it is doubtful indeed whether the possessor of this much knowledge of ophthalmic science could manage anything but the simplest ophthalmic problems.

As distinguished from general medical practice, ophthalmic practice with all its refinements occupies a peculiar position. It resembles laboratory work in that instruments of precision are in use every minute of the working day. The ophthalmoscope is a low-power hand microscope. Its use implies fine technic and, when after three to six months' training its easy use has been learned, another six to twelve months is necessary before the observer can properly interpret what he sees. The ophthalmometer deals with infinitely small differences in the curve of the cornea. The test lenses determine even more accurately these curvature differences. The various instruments for detecting abnormal states of the ocular muscles are all devices of great precision. The perimeter is no less precise in its findings. The tonometer, the exophthalmometer, the stereoscope, the photometer, are all laboratory devices that the ophthalmologist calls to his services. Nearly all the operations in ophthalmic surgery call for this same precision, many of them requiring the use of magnifying instruments to be worn by the surgeon for the proper performance of the operation. Without some knowledge of physics and physiologic optics there can be no intelligent use of this working laboratory, and when the findings have been completed they must be viewed in their relation to the patient's general condition. Only in this way can it be decided whether the ocular anomalies are primary or secondary.

To expect the undergraduate to familiarize himself sufficiently with this ophthalmic laboratory outfit even in a fifth clinical year is asking a great deal. With the present four-year curriculum administered as it is, such a hope is baseless. The most that can be hoped for from the present undergraduate is that he shall be able to diagnose and treat external eye diseases, that he shall know the appearance of the normal eye ground and appreciate the significance of inflammatory or degenerate changes in the intraocular structures when they are properly reported to him, and that he may be able to cope with some of the simpler problems in refraction. We would add as a demurrer, however, our belief that most problems in refraction are complex ones and at times very puzzling ones indeed.

We turn therefore to the second proposition; namely, *to attempt by legislation to fix the conditions under which ophthalmic training shall be given.* At first blush this would seem the solution of the whole question. But immediately we are confronted with the bewildering problem of forty-eight states, each with its own state board and standards, each supreme in its right to define the scope and limits of general and special medical practice within its own confines.

At present it would seem that the only way to compass this end would be for the National Federation of State Boards, or the House of Delegates of the American Medical Association (or its Council on Medical Education) to formulate a uniform act which could be recommended for adoption and enactment by the state legislatures. There is now in the hands of the Council on Medical Education of the American Medical Association a resolution presented to the House of Delegates at the last (1912) meeting of the American Medical Association. It was offered by Dr. Oscar Dowling, of Louisiana and is as follows:—

> "*Whereas*, It is the sense of this body that postgraduate instruction in ophthalmology and otolaryngology is on an inadequate and unsatisfactory basis; and
>
> "*Whereas*, No fixed standards exist whereby the fitness of practitioners may be judged; and
>
> *Whereas*, There are no restrictions which might deter men from entering on the practice of this specialty without adequate preparation; therefore, be it
>
> "*Resolved*, That this body respectfully requests the Council on Medical Education of the American Medical Association to supply this deficiency; namely,
>
> "By the organization of postgraduate instruction in special and other hospitals supplied with adequate facilities in the treatment of diseases of the eye, ear, nose, and throat; which instruction should cover a period of study of at least two years; that a degree be conferred on those students completing the course in a satisfactory manner; that the course of study be laid out by committees from leading special societies of the United States."

In the present state of affairs this is a far cry. But assuming that these things are possible of accomplishment, the logic of the situation would compel equal recognition and regulation, by the state legislatures, of postgraduate instruction in general and special surgery and medicine in all its various ramifications. In short, it would be not only unwise and unfair but absolutely wrong to ask for legislation in but one department of postgraduate medical instruction. Hence, some other agency must be sought in the effort to better the present situation.

We turn to the third proposition, *to extend the term of postgraduate instruction to three months, six months or even a year;* in the event of either of the longer terms, the conferring of a "degree in ophthalmology" upon production of satisfactory evidence that the work had been done. Advocates of this propositon point to the fact that three years ago, in England, the University of Oxford established a three months' course of postgraduate study leading up to the degree of "doctor of ophthalmology," and that the University of Liverpool has recently followed in its footsteps.

It is to be borne in mind, however, that in the United Kingdom tradition is so strong that whatever is done by the Universities of Oxford and Cambridge is more or less binding on all the other teaching institutions of Great Britain. Conditions in this country are different. One of our educational institutions, the University of Colorado, is now making the experiment of a one year's course in postgraduate ophthalmology leading up to the degree of "doctor of ophthalmology." In favor of a working year in ophthalmology there is much argument and we are glad to place ourselves on record in support of the position taken by Dr. Jackson. The outcome of the experiment will be awaited with much interest. There is doubt in some quarters as to whether a one year's course will be advisable or properly supported by the general medical profession at present. On the other hand, there seems to be quite as much conviction that the six weeks' course should be abolished. Three months would seem to be the minimum term for instruction with a working year as the maximum. In a three months' course much of the first month could be devoted to the necessary physics and physiologic optics and the two remaining months to the clinical application of these truths along with training in the other departments of ophthalmic science. Naturally much consultation of ophthalmic textbooks and magazines should be required during this period. At the end of this time a certificate of credit for three months' work could be furnished the student; and if he later desired to add six months of further work and postgraduate instruction in the same or other institutions he might then be eligible for examination for some manner of degree in ophthalmology. This implies an agreement of some sort between postgraduate institutions to which reference will be made later on.

If the working year idea were generally adopted it would afford a teaching staff abundant opportunity for a comprehensive course that might justify the conferring of a degree such as "doctor of ophthalmology." Other things being equal, the possessors of such a degree would soon become recognized by the discerning people in their respective communities as men of unusual training. A larger measure of professional success should and in all probability would wait upon men so trained. Society is already awakened to the value of the trained man and is becoming each day more and more keen in its insistence on proper training.

Dr. Edward Jackson of Denver, Colorado, in a recent address on this subject before the Section on Ophthalmology of the American Medical Association (1912) estimated that there should be at least 10,000 trained workers in ophthalmology in the United States at present, allowing one such worker to each 10,000 of population. He further estimated that to keep this body of workers continually at this number, about 400 men should be trained and accredited for this work annually.

If the plan above proposed, of admitting to a qualifying examination assistants in recognized ophthalmic clinics as well as students in postgraduate schools, was adopted, it is probable that between 200 and 300 men at least would qualify each year. There are to-day about 2500 hospitals of twenty-five beds and over in this country and it is fair to assume that at least one sixth of them would well afford the opportunity for excellent clinical training of students who desired to qualify for an ophthalmologic examination. As the system grew and its benefits were appreciated more and more, men would hasten to avail themselves of such privileges.

There are also in this country at the present writing about fourteen well-recognized postgraduate institutions. If there could be brought about some agreement among them as to the minimum training required of applicants for examination and some approach to uniformity in the ordering of a three and six or nine months' course, it would be a long step toward the realization of that ideal that is enshrined in the heart of every postgraduate teacher.

To summarize: It is our belief (1) that thoroughgoing ophthalmic instruction is to-day best obtained in a postgraduate institution with its attached clinic or clinics, the exception being in the case of those men who may attach themselves for a period of years to a well-organized ophthalmic clinic in their own cities; (2) that legislation in behalf of postgraduate teaching does not in the light of present conditions seem feasible; (3) that regulation is imminent and rational and can be more easily and readily achieved by coöperation among postgraduate institutions than by any other means now at hand; (4) that the six weeks' course should be abolished; (5) that a three months' minimum and a working year maximum course would probably furnish the best working basis for agreement among our postgraduate institutions; (6) that no applicant for postgraduate teaching, who has not completed three years in general practice or its equivalent in general hospital work, should be admitted to any of the well-recognized specialty courses; (7) that certified attendance upon a recognized ophthalmic clinic for one or more years (after three years in general practice or its equivalent in general hospital work) should entitle such a clinical assistant to examination for whatever degree in ophthalmology might be agreed upon among the American postgraduate institutions; (8) that this plan would provide as many well-trained workers in ophthalmic science as the nation would have need of for some years to come.

ORIGINAL ARTICLES.

SIGHT SAVING AS A NATIONAL MOVEMENT.

BY F. PARK LEWIS, M.D.,
President of the American Society for the Conservation of Vision, Buffalo, N. Y.

(Read by invitation in the Section on Eye, Ear, Nose and Throat Diseases of the Medical Society of the State of Pennsylvania, Scranton Session, September 24, 1912.)

At the last annual meeting of the Medical Society of the State of Pennsylvania a most valuable and comprehensive paper, which was freely discussed, was read by one of your members on the prevention of blindness. At that time emphasis was placed upon the fact, now so generally recognized by thoughtful physicians everywhere, that the most effective curative efforts possible, even when made by the ablest and most thoroughly trained medical and surgical experts, must of necessity fall far short of the results which would follow intelligent measures for the prevention of disease. It was shown that of all cases of blindness one thing ought never to have occurred, and that the economic saving, had these eyes been preserved, would have been enormous. It was made clear, moreover, that the measures to be employed for the protection of eyes which would otherwise be lost, were simple, practicable, and their necessity immediate. I shall not attempt, therefore, in any detail to cover the broad subject of the many ways in which eyes are needlessly lost, or how they may be saved. I shall deal rather with some fundamental principles touching on the value of sight and the importance not only of preventing eyes from becoming blind but of saving every fractional portion of sight when it is threatened. I shall endeavor to show that the largest results can not ever be secured by unaided individual effort, that only by definitely organized movements conducted in a systematic way may the most effective work be accomplished, and I shall briefly indicate how such organizations should be formed—and how they may be made to coöperate. I shall hope to make clear that, while all work for the benefit and uplift of humanity is necessarily altruistic and will demand self-sacrifice, the great movement of sight-saving by prevention, in which we are all engaged, will not destroy the ophthalmologist but will exact from him an increasingly higher degree of preparedness, and give to his branch of the profession added dignity and increased emoluments, and that it is to him, because of his expert knowledge and his practical experience, that the public look for all local initiative in what is destined to be one of the world's greatest and most important movements, the conservation of human eyes.

The endeavor which is dominating every progressive movement to-day is to attain increased efficiency. We have begun to realize as we have never done before that in many of our great industries the financial losses have been amazing not because the work was not done, but because of the inefficiency of the machines. In many instances these machines are men, women and children. To replace or repair a piece of material mechanism is frequently a matter of great inconvenience and large expense. When a man has his eyes blown out and his usefulness thereby destroyed there are hundreds crowding to take his place. The loss to the employer of the services of the man would under ordinary circumstances be so inconsiderable as to be worth hardly a moment's thought. To the man, and not infrequently to a large queue attached to him, it means broken and ruined lives. The wages of the poor and the habits of the poor are not apt to make them thrifty, and when calamity comes and a strong man finds himself unable to meet the demands which society exacts from him, he throws up his hands in despair and society must take him and his and make decent provision for them. So the problem from being simple becomes at once an exceedingly complicated one. We find that we can not scrap human engines, or like Frankenstein's monster they come back upon us and pursue us. Neither do we find it easy to keep them in repair. Every one of them, curiously enough, seems to possess the same qualities that we ourselves have and to be willing to learn only by bitter personal experience.

The things, therefore, that seem to us to be so simple, so clear, so obvious, they look upon with doubt, with distrust, with incredulity, and to save men from the consequences of their own folly is often one of our most difficult tasks.

In the discussion last year it was clearly shown, and it has been found true everywhere, that men resent the efforts which are made for their protection and refuse to submit to the adoption of precautionary measures which may save them from blindness and lifelong suffering; but so far from that fact being a discouragement it should, rather, stimulate us to new and more intelligent effort. The game is surely worth the candle and in the end success is absolutely assured, because we have to-day, as we never have had before, an intelligent and enlightened public ready with sympathy, with money, and with existing agencies to work with us whenever we are prepared to show that the needs exist and that practical measures can be devised for saving eyes. In the first place we must bear in mind that the prevention of blindness, where the necessity is so obvious and where the dramatic quality is so appealing, is a relatively inconsiderable part of the task that we have set for ourselves. For each of the killed, there are ten, possibly twenty, wounded; and imperfect, inadequate, as are our statistics of the blind, we have none whatever concerning the multitudes who go handicapped through life with defects of sight, which, while short of blindness, yet limit their opportunities and lessen their working possibilities. In a most valuable study of the physiology of the blind, made by Professor M. Kunz of Ilsach-Mülhausen, he says: "To the oculist, a person is blind who can not distinguish day from night; to the teacher of the blind, any one is blind who can not see sufficiently to work by the aid of the eyes. I therefore consider the statistics of the blind and the deaf as entirely unreliable as long as a fixed standard has not been established. Most parents hesitate to enter the words *blind* or *deaf* on the census blanks."

THE VALUE OF DEFINITIONS AND THE NEED OF STATISTICS.

In the first place then, we must know that we have no generally accepted definition of blindness and consequently all of the records that we have are of varying value. A definition, too, that is exact from a scientific standpoint may not be so stated as to have a legal value. Only recently a fraternal insurance company refused to pay an indemnity to a man who had merely light perception because it was claimed that he was not "blind." On the other hand, in the United States census report some were called blind who had lost one eye, although the other eye had normal vision. It would seem to be most important if we are to obtain facts which will have a real value, that some method be devised by which we will secure records of the initial conditions as well as end results, as far as they can be obtained, of all the cases that come under our observation. In institutions supported in whole or in part by public monies this should be looked upon as a requisite part of the service. We would find, if this were done, that a large proportion of the cases that are reported as cured did indeed get well, but at so great a cost to sight as to make the loss to the individual a serious one.

The causes of blindness or limitations of sight broadly group themselves under the following heads: Congenital defects of sight which have in many instances been perpetuated through generation after generation, no one knows from how far back. Defects of sight due to imperfect nutrition and unsanitary living; this would include phlyctenular and other corneal ulcers in children. The permanent scars which these leave on the cornea may interfere with the child's progress at school and modify his entire future career. Infections of a dangerous character, as in ophthalmia of the newborn, or, in the adult, trachoma, infections ulcers, etc. Amblyopias through failure to correct strabismus until it is too late to restore function; Worth thinks it is already too late at the sixth year; it may be too late at the third or fourth. Medical and surgical failures through wrong diagnoses or operations made under wrong conditions by inexpert operators, or at the wrong time; those include iritis mistaken for conjunctivitis, neglected glaucomas, cataract failures, operations made when the patient is in an infected condition or when the blood pressure is too high. Avoidable accidents, and these are far more common than we realize. Delay when prompt treatment is imperative, and as essential in the case of a prolapsed iris, or other eye injury, as in appendicitis.

If the mere record of all such cases as these were made in the institutions treating diseases of the eye, and it could be done with comparatively little additional labor, carefully summarizing the conditions which were first presented, the measures employed and the results obtained, the annual reports instead of being utterly devoid of scientific value as almost all of them are, would be repositories of observed facts. They would immediately become of greater worth than the most carefully prepared medical essays; they would be vital documents. The results, when aggregated, would quickly show us whether a new measure had a permanent value without waiting until it had been crudely tried by every enthusiastic tyro at a cruel cost. We would also then acquire a large mass of trustworthy statistics, now unfortunately lacking, and which would enable us rightly to estimate the value and effect of our efforts in saving eyes.

Finally, in regard to wrong school conditions, while the improvements have been marked since Risley's classical treatment of this subject in Norris and Oliver's System of Diseases of the Eye, more than twenty years ago, there are many states in which no regulations exist governing the lighting and the arrangement of seats in school buildings, and in all but very few the curriculum bears no relationship whatever to the visual limitations of the child; the amblyope and the progressive myope together must spend needless hours in wasting energy over books and papers when more exact results could be obtained at a less cost by a direct appeal to the intellect of the child.[1]

EUGENICS AND THE OPHTHALMOLOGIST.

There are in the New York State School for the Blind representatives of two families, these are cousins and are all the victims of congenital cataract with such a high degree of amblyopia that they have none of them any degree of useful vision. The history of one of these is as follows: Four generations ago two young people, each being born blind, were led through propinquity to marry; their progeny at the last count numbered seventeen, all of whom have been maintained through a long school period and, as far as I can learn, through their subsequent years largely at the expense of the state. The estimated cost for the education and maintenance for each one during the school period alone, is between three and four thousand dollars. For these seventeen people the state has already expended over fifty thousand dollars, and each one is the possible starting point for further groups through which this horrible defect, associated as it is with a rather low mentality, will go on reproducing itself while the individual lives endure.

This is not the place, nor have we the time here to discuss questions of racial betterment but it must be evident to the least thoughtful that it was not right on the part of the state, it was not fair to those unborn generations (each member of which had a right to be wellborn) to bring the unfit together at the mating season. Sometime our responsibilities as physicians will be forced upon us, because it is to those of us who know, that the public properly look for guidance and initiative in these great questions and we must be ready to deal with them with intelligence based upon a knowledge of the facts.

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[1] See report of National Education Association, 1910, 1911, and 1912, Department of Special Education—the Hygiene of Vision.

I suppose there are few of us who have not been depressed by the relative infectiveness of our dispensary and hospital work, as compared with what it might be. The phlyctenular and other corneal ulcers in children, which leave the eyes permanently damaged at a cost to the individual beyond estimate, may or may not be tubercular in origin; they certainly are due in a large proportion of cases to improper food, unsuitable housing, and other unsanitary conditions of living. Their evil results are augmented by the failure on the part of the parents or others to recognize sufficiently early that such conditions are serious and should be met promptly. The busy doctor, overwhelmed by a multitude of dispensary cases, can give only hurried directions as to what should be done, and the child is brought to him for its atropin or mercurial ointment two or three times weekly through a long period before the ulcer heals, leaving an enduring cloud through which sight will never again be clear. Think of the possibilities of eye-saving by giving advice to young mothers, living in crowded tenements, as to the danger of such conditions and the ways in which they might be avoided by teaching them the value and economy of good food properly cooked. This would, of course, necessitate the coöperation of the social worker but in that lies the very essence of all successful preventive work. When it became known that in the city of Buffalo a branch of the Association for the Conservation of Vision was to be organized, one of the first to offer practical assistance was the agent in charge of the District Nursing Association. This very intelligent and practical woman realized that, being brought constantly in touch with young mothers, she and her assistants were peculiarly well fitted to bring such a message to them as we might have to send.

It is happily true that the almost universal efforts that are now being made to prevent infant blindness are succeeding in saving multitudes of eyes that would otherwise be lost. The fact remains, however, that so long as ignorance exists, so long as there are those who are careless, indifferent and inefficient in attendance upon births, so long as their negligence and their blindness are allowed to pass unheeded, humanity must pay its toll in blinded eyes and ruined lives. It has become now perfectly evident that if we would save all or, indeed, any large proportion of the eyes of the babies which are threatened by gonococcic infection, we must not depend solely upon education nor upon the voluntary efforts of those whose duty it is to care for the newborn child. Four things are imperative: (1) Every birth should be promptly reported, preferably as in England within thirty-six hours; every inflamed eye in a newborn child must be reported at once; (3) the Department of Public Health must be vested with authority to take care of all such children as are not receiving care, at once, and should make complete report from time to time of the number of cases of ophthalmia neonatorum with an exact statement of the end results; (4) the failure to report existing cases must be so effectually penalized as to compel all attendants, medical or otherwise, to report them so that the department may have at least as adequate a knowledge of them as it now has of scarlet fever, diphtheria, smallpox, or other infectious diseases.

The educational measures, through lectures, circulars, public exhibits, etc., the demand on the birth report as to whether a prophylactic has been employed, even the gratuitous distribution of the prophylactic, important as these are, are all secondary and subsidiary to the enactment of suitable laws and the development of a public sentiment that will ensure their enforcement.

At the last meeting of the American Medical Association, the House of Delegates directed the Committee on the Prevention of Blindness to prepare a sketch of a model law which when approved by the Council might be recommended for general adoption by all of the states. Such a sketch has been submitted for approval at the meeting of the American Public Health Association, and after receiving the endorsement of two such authoritative bodies it will in all probability be generally accepted throughout the United States. When this shall have been done we will be in a fair way at the same time to wipe out this long existing scourge and the unpleasant blot which has for so long marred our standard of efficiency as sanitarians in ophthalmology.

I am strongly tempted to speak with some emphasis as to our responsibilities as physicians in permitting men without adequate special training to undertake the most difficult of all surgical work, that upon the eye. The mere fact of seeing a skillful operator remove a cataract or make an iridectomy for glaucoma, no matter how long such observation may have been continued, can never give that perfect coördination of the eye and hand that alone makes for success. In the making of the ophthalmic surgeon there must be progressive operative studies under the eye and by the direction of a master before the beginner should be permitted to imperil a human eye. Should the exact statistical results, the value of which has been urged, be ultimately obtained the importance of this preliminary training would not need to be insisted upon, for the results would make its value self-evident in securing prompt and correct treatment for seemingly insignificant injuries; this is constantly impressed upon the practical surgeon. A single case from a multitude that might be cited will make clear my meaning.

A fireman got a small foreign body in his cornea. It was a trifling and seemingly unimportant thing. He went to a neighboring doctor who in an awkward and clumsy way got it out. His eye continued sore for two or three days when he received some further treatment for it; at the end of a week he had a deep, round ulcer extending through the entire substantia propria. After a week's treatment this got well, leaving a permanent central scar. This was found to have lowered his visual acuity to one tenth, disqualifying him for further railroad service. The suit which he will bring will probably cost the road several thousand of dollars in damages, but will not, however, recompense the man for a permanent loss of a valuable job, nor his family for his ruined life. A workman of his limited education will find it almost impossible to secure other employment. This whole unfortunate trend of circumstances might have been avoided by two minutes' right handling of a most simple injury at its beginning. Under the Workman's Compensation Laws, which I quote from the advance sheets of a report on "The Interdependence of Medical and Surgical Work" by the Massachusetts Commission for the Blind, I find that awards for the loss of an eye have already been made to workmen in more than one state. Such awards, as they multiply, are counted on as strong inducements to employers to put in use and in force devices and rules for the protection of sight. A San Francisco newspaper report of May 7, of the current year, is headed:—

"Fifteen Years Job for the Loss of an Eye."

"In the first decision of the kind the California Industrial Accident Board rules that Harry Christ, an employee of the Pacific Telephone and Telegraph Company, who lost an eye while at work will receive $100 for medical and surgical expenses, full wages for hospital time, sixty-five per cent. of his wages for the following eight weeks, and sixty-five per cent. of his estimated loss in earning capacity, thereafter for a maximum period of fifteen years. The Board finds that though the loss of an eye does not necessarily impair a man's earning capacity, it increases the difficulty of *finding work.*"

It will become increasingly evident, therefore, that the protection of workmen from accidents on the part of employers, and accident insurance companies, is good business and that humanity and good economics go hand in hand. As these facts become more widely known we shall find our efforts in preventing eye injuries will receive the most hearty support and cordial coöperation on the part of the business community.

I have just a brief word to say on the following subject:—

BLINDNESS FROM WOOD ALCOHOL.

From a letter on this subject from Dr. Casey A. Wood to the secretary of the Committee on the Prevention of Blindness of the New York Association for the Blind, I am permitted to quote as follows:—

"There can be no doubt of the necessity of a widespread campaign against Columbian Spirits and the other forms of 'purified' methyl alcohol. I may repeat what I have so often said before, that Columbian Spirits and all other varieties of 'deodorized' wood alcohol are just as poisonous and infinitely more dangerous than the impure wood spirits. Columbian Spirits is nothing less than the poisonous methyl alcohol presented in an alluring form. Impure wood alcohol is not very dangerous because it smells and tastes so badly that no one will drink it and very few people will inhale it or use it for rubbing on the skin. Robbed of the products that warn the individual against it, it is of course more likely to be employed by human beings, especially as the unscrupulous makers of this poison pretend that it is practically innocuous and is a cheap substitute for pure grain alcohol. The fact is that Columbian Spirits is not only just as poisonous as common impure, ill-smelling wood alcohol but the very fact of its being 'purified' or 'deodorized' is an additional menace to the public. This so-called 'purification' makes it smell and look just like grain alcohol. Indeed, the very claim that Columbian Spirits people make constitutes the chief danger of their product.

"The editor of the *Journal of the American Medical Association* has now in his possession a pamphlet that I wrote last month, endeavoring to make a plain and popular statement of the dangers of the various varieties of wood alcohol, and I hope he may see his way clear to distributing these pamphlets wherever they will do most good. As I understand it some such action was authorized at the last meeting of the House of Delegates and I believe Dr. Simmons is in sympathy with the movement and will do all he can to further it.

"It seems too bad that the United States federal government could not take up this matter. The recent holocaust in Berlin and Vienna (where something over two hundred lives were lost from drinking 'Schnapps' adulterated with 'purified' wood alcohol) has moved the European government to take instant action and I believe that we have heard the last in these countries of poisoning by this dangerous fluid.

"In reply to your request I have written the attorney who recently prosecuted a case of death from inhalation (a beer-vat varnisher) of Columbian Spirits and when I hear from him he will give you a brief account of decisions against employers.

"From what I have already said it is not difficult to guess my opinion as to the dangers of Columbian Spirits. I believe that the original articles in the *Journal of the American Medical Association* by Buller and myself effectively disposed of the declaration of the Columbian Spirits people. Their product is a dangerous, useless menace to the public health and if we lived in any other country but the United States they would have been put out of business long ago. Now that we have 'denatured,' cheap, industrial grain alcohol there is no justification whatever for the manufacture by these or any other people of any form of 'deodorized' alcohol, and only certain things which I do not care to mention here have given them any standing in the community.

"If I had my way I would prohibit the manufacture of 'deodorized' alcohol altogther. As I told an official of their company years ago their profits are made at the expense of the health of the community and they ought to be suppressed as a public nuisance."

In the New York State during 1911-12 sixteen cases of blindness and death from this cause have been reported, mainly through the drinking of cheap adulterated wood alcohol liquors such as anisette, kummel, weisse Schnapps, white brandy, etc.

There is, of course no necessity of my emphasizing here the importance of an early recognition of the following:—

TRACHOMA.

The wide area of territory in which it is already found has been touched upon in the last report of the Committee on the Prevention of Blindness of the American Medical Association. It has grown to be a serious national menace. It is apparent that a system by which reports of all existing cases could be brought to one central point for classification would be of great value. This might enable us to localize the incidence of initial infections and it requires, in order that it may be made effective, a widespread organization of skilled physicians. The need of some such method has been recognized by the national government and doubtless the Surgeon General had something of the kind in mind when he wrote me not long since, saying, "The Bureau of Public Health is deeply interested in the subject of trachoma and contemplates a special investigation of it." After formulating definite plans he continues, "I expect to communicate with the Association for the Conservation of Vision and would be pleased to receive the addresses of its officers and copies of any literature that may have been issued."

THE EYES OF SCHOOL CHILDREN.

Effective work is coöperation. The report which the Committee on the Hygiene of Vision made at the last meeting of the National Education Association will require the united support of the medical men of the country if results are to be obtained. I may be permitted to reproduce the conclusions which should be emphasized, they are as follows:—

1. That the nation's most valuable asset is its children. All other forms of wealth are of secondary importance, because later it will be through their efforts that all progress, material, intellectual, and moral, shall become possible.

2. That except for their minds and morals—and both depend in a larger degree than we realize upon their sight—their eyes constitute their most valuable possessions.

3. That the present methods of book-study, especially in the large proportion of cases in which uncorrected organic defects are present, not only affect the eyes themselves but retard the normal development of the brain, prolonging thereby unnecessarily the period of tutelage and lessening life's larger opportunities.

4. That there should be less close work for the eyes in book-study, note-taking, etc., that the amount of work requiring pen or pencil should be as limited as possible, and that care should be exercised in providing conditions under which the eyes shall be used with the least possible effort.

5. That in the building of new schools the placing of the windows and the seats of the children should receive special attention and that when artificial light is employed as in evening schools it should be adequate, properly placed, and properly shaded.

It is further recommended that measures be taken in all schools to determine the acuity of vision of each child, together with the conditions under which school and home work is conducted, that proper examinations of the eyes be made by competent specialists when necessary, and that glasses be provided at public expense when the parents are unable to purchase them, thereby adding to the efficiency of the child, and that provision be made for the preservation of the sight of those who can not see adequately or comfortably, by the arrangement of special classes in which instruction shall be carried on as far as possible by other methods than the use of books. Furthermore, if in every school book were printed a page giving simple instructions as to the proper care of the eyes and other hygienic subjects its value would be immeasurable. This is done in France and gratifying results are obtained. The following is suggested as a form that might with propriety be used and be placed on the first blank page with practically no added expense in the cost of the book. This is earnestly recommended:—

TAKE CARE OF YOUR EYES.

1. Always take good care of your eyes. Blindness is one of the most serious afflictions that can happen to you.

2. In reading or writing the light should come over the left shoulder and be strong enough to enable you to see easily.

3. A good lamp is much better than a flickering gas light hanging from the ceiling. The light should be properly shaded so that the glare does not hurt your eyes. The pages should be kept clean so that the type may be easily read. If the margins of the eyelids are red or sore, if the lids discharge, if the use of the eyes causes them to pain or the head to ache, if the letters on the page blur or become indistinct, if the eyes are not straight or if you can not see distinctly, the eyes should be examined by a competent person and proper spectacles should be used if needed.

4. Roller towels should never be used, they may carry disease of the eyes from one person to another.

5. Do not play with sharp-pointed sticks, nor cut with the blade of a pen-knife toward you. Do not try to untie knots with scissors or with other pointed instruments. Little children should not play with sharp-pointed instruments or button-hooks; many eyes have been seriously hurt in this way.

6. Redness, with the discharge of matter of a newborn baby, is a sign of great danger to the sight. To save the child from blindness a good doctor should be called *at once.*

7. Injuries or inflammations of the eyes should receive care from a skillful doctor *promptly.* Blindness may thereby be prevented.

It is, perhaps, not necessary to outline more fully the nature of the preventive work which we will be called upon to initiate. In conjunction with the school authorities, with the school architect, the illuminating engineer and the teacher it will be the duty of the ophthalmologists to determine whether the school buildings are rightly constructed from the standpoint of the hygiene of the eyes, whether the hours of study are adjusted to the ability of the individual for continuous eye work, and whether, when artificial lighting is employed, it is sufficient and the fixtures rightly placed. Already since the conservation of vision movement has been started there have come many inquiries on all of these points. It will be his duty in connection with the department of public health for the physician to urge measures for the protection of the eyes of the newborn and to see that they are enforced. As hospital and dispensary surgeon he must cooperate with the representative of the charity organization and the social worker, with the employer of labor, the factory worker and the factory inspector, he must collaborate in devising and making effective measures for the prevention of accidents and the prompt treatment of injuries, with the publisher in securing good printing, with the directors of schools for the blind in order that statistics may be made uniform and thereby increased in value.

In a word, the range of this preventive movement includes among its workers all of those who have eyes, as well as those who have not; there is no one to whom its importance will not appeal. To be effective, however, and not waste effort the first essential is the attainment of complete organization. The attempt on the part of small individual groups to carry out such a program would mean the multiplication of effort and an enormous increase in cost. The same problems are presented in Boston and in Chicago and the material and the methods which will serve in New York will be equally available in Philadelphia. The educational pamphlets, the lantern slides and illustrated exhibits which have been worked out with infinite pains may be produced in indefinite numbers and the measures which have been found successful, or which have been discovered to be unprofitable, need not be experiments in each new attempt. Hence it was that, under the direction and with the moral and material support of the Russell Sage Foundation, the American Association for the Conservation of Vision was organized. It is designed to work in harmony and in cooperation with all other bodies which it can aid, or from which it may receive helpful assistance. It is to be the clearing house through which all preventive and protective eye work may be carried on. It invites to its membership all of those who are interested in the work which it has set for itself. It proposes to have in its management and to place upon its directorate representatives from all of the states ready to work in conjunction with it. While it receives a generous appropriation from the Russell Sage Foundation the large and important work which it plans can be conducted only through the coöperation of those throughout the country who sympathize with its aims and purposes. The national secretary who will be secured must be a man of large ability and one capable of directing and making effective such a work. There must also be in each state a secretary having organizing ability and who can develop the work in that state.

It has been found to be exceedingly difficult to obtain monies necessary to conduct such a movement when it is attempted on exclusively national lines, but on the other hand contributions are obtained with the greatest ease, so practical and appealing is the work when they are to be employed in the locality in which they are given. So helpful, however, is the national association to that of the state that the success of the one is contingent on that of the other. It has been found entirely practicable, therefore, to join the issues and in establishing the state organizations to secure at the same time the funds necessary for the conduct of the national association. None of the officers, except the permanent secretary, receive any salary whatever, the movement being wholly social and philanthropic, the one proviso under which a large contribution is made to the Association for the Conservation of Vision by the Russell Sage Foundation is that its director shall approve of the expenditure of its funds, in itself an assurance of good judgment and wise management. As the work which the association plans is one which the medical societies from their nature could not do, it is earnestly hoped that the medical men throughout the country will not only give their support to this movement but with the aid of the national association will form local groups, each in their several cities, for the beginning of an organization in Pennsylvania similar to that of the Commissions for the Blind of Massachusetts and Ohio, the Committee for the Prevention of Blindness of the New York Association for the Blind, or the like society which is now becoming important in the state of New Jersey. To this end the American Association for the Conservation of Vision not only pledges its hearty coöperation and support but will aid when its organization has been completed and send its secretary to assist in establishing a new branch association and will loan its material and give its support whenever and wherever the movement for sight-saving can be advanced thereby.

TRACHOMA IN ITS RELATION TO BLINDNESS.

BY CLARENCE PAYNE FRANKLIN, M.D.,
Philadelphia.

(Read in the Section on Eye, Ear, Nose and Throat Diseases of the Medical Society of the State of Pennsylvania, Scranton Session, September 24, 1912.)

That trachoma is an alien disease is axiomatic, at least so far as its origin is concerned. Like syphilis, it can be followed backward through authentic history into tradition and beyond, until it is surrounded with the mists of antiquity; but, unlike syphilis, there has never been any doubt as to whether it was introduced into this country from Europe. To parody Patrick Henry: Asia has its plagues of blindness, Europe has its blennorrhea, and America may profit by their example. If that be reason, let us make the most of it!

England's filtering out of trachoma does not, however, prevent its leaking in from other sources, for we know that there is not a country in Europe that does not send us annually its quota of cases, and our northern and southern borders are only outdone by our western coast in allowing a seepage that has been great in the past.

So vast is our country that an enormous number of cases of trachoma might be, and we are beginning to suspect that an enormous number are, scattered throughout the land, confronting us with the possibility of the gradual leavening of the lump that, neglected, can easily raise our blind-rate with all that that phrase implies.

Reports of upwards of ninety per cent. of cases of trachoma among our Indians are not to be passed over lightly, but the responsibility to these wards of the nation is no greater than that of each individual state to its citizens. It is with a deep sense of satisfaction that the writer regards the work of the American Association for the Conservation of Vision, for the establishment of state committees, as is being done by this great body, will inevitably lead to the erection of state and county society committees for the conservation of eyesight (which will include trachoma among their objects of care) and cause a closer scrutiny of our responsibility in the question of blindness from ophthalmia neonatorum, wood alcohol, industrial accidents, etc. Already recommendations have been made for the formation of such a body in our state medical society, that this organization may have an official contact with such progressive work as that fostered by the great eleemosynary bodies like the Russell Sage Foundation.

There is sufficient trachoma in the United States at the present time to increase, by an only comparatively slight neglect, to troublesome proportions.

There is no doubt that the great open door to the cure of trachoma will appear before us when the puzzling lock of its cause is picked by some acute brain that we hope is now living and wrestling with the problem. Truly the cause is yet unknown, but much progress has been made since the days when the cut of a soldier's hair was considered a causative factor (Boldt).

Exclusion at our ports is as nearly perfect as is humanly possible, although critics of such good standing as Mr. Treacher Collins claim to have known conjunctival affections of simple character as well as lacrymal cases excluded under the heading of trachoma. Our only answer to such a charge of mal-diagnosis is that probably nothing is lost by an error on the side of safety.

The relation of trachoma to blindness is a close one, symptomatically, as untreated cases commonly lead through terrible sequelæ to blindness. The relation of trachoma to blindness sociologically is, however, an entirely different problem, depending upon many factors, such as climate, race, environment and the persistence and vigor of the warfare waged upon the disease by health authorities, national, state and municipal.

In the United States, blindness from trachoma presents, through the preservation of states rights, nearly as many factors in the problem as there are states in the Union. There is no uniform law regarding its public care, and not many states have any law at all relating to it. This only adds another argument to the long list in favor of the establishment of a national department of health, with a secretary of health in the cabinet of the president.

Our asylums and institutions for the blind show, statistically, the results of neglected or badly treated trachoma, and the cause of blindness from trachoma is easily ascertained, but here we have that curious lagging of advancement in civilization, the cause and effect of an evil given, and the picture presented of a remarkable laxity in doing the obvious thing in a generally considered highly progressive nation; namely, the prevention of an evil effect when the cause is known.

Probably the best result will be obtained by the slow evolution through generations of stupid or venial health officials to the production of a class of public officers whose aim for the public welfare will be prevention, not cure. At present the care of cases of blindness from trachoma in Pennsylvania is to be found in private institutions.

An attempt to codify the laws of the various states relating to this particular branch of the subject is met by the situation that there is practically nothing to codify—a labor of love without the accompanying pains of parturition.

The only law existing in any state at present, and after all the only law worth having under present conditions, is the great human law of service, for the care of the blind from trachoma and the prevention of blindness from the same cause have been, are, and must be under private protection until such time as we awake to the fact that this as well as all other causes of blindness must be made preventable, as a plain business proposition, one of conservation and economy, and then, through human sympathy and altruistic thought for each other, be forgotten; the plain commonsense, practical thing to do will be to shut the door to more trachoma, and turn round and clean up the house of its blind, for those we have among us, care and, when possible, relief, but always an eye to the future that our blindness percentages shall lessen, and ease the tax rates of an unjust burden.

"Never show anger towards a child."

THE EFFECT OF ARTIFICIAL LIGHT UPON THE EYES AND SOME MEANS OF DETERMINING THE SAME.

BY WILLIAM CAMPBELL POSEY, M.D.,
Philadelphia.

(Read in the Section on Eye, Ear, Nose and Throat Diseases of the Medical Society of the State of Pennsylvania, Scranton Session, September 24, 1912.)

It is only within recent years that the attention of the lay and scientific worlds has been especially directed to the elucidation of the problem outlined in the title which heads this paper. In this period, however, the introduction of so many and so varied sources of artificial light, and the erection of office buildings so constructed that those who work within them are compelled to resort to artificial light even in the hours of daylight, is compelling an inquiry into this subject and demanding data more definite than individual opinion and sensations as to the superiority or inferiority of this or that artificial light source.

Happily the field has not been wholly without investigation, and a survey of the literature reveals a number of admirable papers which have greatly increased our knowledge of the subject. Physicists, psychophysicists, physiologists, illuminating engineers and ophthalmologists of note have all contributed valuable papers, so that there is now much data available for future research. The investigations which have already been made reveal, however, the exceeding complexity of the subject and the impossibility of its solution by physics, psychophysics, physiology, illuminating engineering or ophthalmology alone. Phenomena which involve all of these sciences to a greater or less degree must be studied to appreciate even the simplest effect of any form of artificial light upon the eye, and the determination of accurate and final data necessitates the attention of an investigator of extraordinary ability, who is familiar with all the sciences just enumerated, or the combined efforts of a group of men representing in their personnel each of these sciences.

Lacking the ability to engage the services of savants sufficiently versatile to combine in their own persons the sum of the sciences just mentioned, when the writer was requested, two years ago, by Dr. F. Park Lewis, of Buffalo, the chairman of the Committee of the American Medical Association engaged in the determination of methods for the prevention of blindness, to determine some of the effects of artificial light upon the eye, he adopted the latter expedient and formed a committee composed of specialists representing all the sciences above enumerated, many of whom had already made contributions of note upon the subject under discussion. This committee has gone into the field to be investigated very conscientiously and has decided that their first endeavors shall be along practical lines; briefly outlined, the work will be carried on as follows. The physicists and engineers of the committee will first decide upon the lights which shall be employed in the tests and having ascertained all their physical characteristics, will cause them to be installed in large rooms where a considerable number of people, fifty or more, are engaged in some form of labor which requires prolonged and accurate use of the eyes. It shall then be the duty of the ophthalmologists to make a careful test of the eyes of all those who will be subjected to each form of illumination, both before the trial begins, and a second test some months later. By experimenting with a large number of subjects and noting the average result, it is thought that more valuable and accurate deductions will be obtained than if the effect of the various forms of illumination was studied on the eyes of single individuals.

After considerable deliberation, it has been determined to limit the investigations of the committee during the coming winter to three tests, as follows:—

1. Two groups of subjects will be chosen, each consisting of at least fifty persons who are engaged in night work. One group will be provided with students' oil lamps, with customary green shade and chimney, all placed uniformly in the usual position for work, at a fixed height above the plane of writing. The second group will receive an exactly similar equipment, with the exception that the light will be furnished by tungsten lamps of a candle power equal to that obtained from the oil wick.

2. Determination of the effect of the direct and indirect systems of illumination upon the eyes. Tungsten lamps will be employed for this purpose; the amount of candle power will be so regulated, however, that the group of workers under the indirect system will receive the same amount of illumination upon the working page as those under the direct system.

3. Determination of the effect upon the eye of different intensities of illumination. Six groups of fifty persons each will be chosen as subjects. Three of these groups will be tested under the tungsten lamps and three under the inverted incandescent lamps. Fifty subjects in each group will be tested after working under one-foot-candle, fifty under three-foot-candle and fifty under ten-foot-candle illumination.

All of these tests will be carried out with the subjects engaged in them writing on a white paper with black ink, in order to insure an equal quantity of illumination reaching the eye from the paper. A careful history will be taken of each individual, both as regards the previous and present ocular condition. Vision will be accurately tested, care being taken that the test cards used for this purpose are illuminated uniformly in quantity and color. The range of accommodation will also be determined and the balance of the extraocular muscles obtained. The light and color sense will also be tested.

In addition to these tests of everyday use in the practice of all ophthalmologists, others have been suggested by members of the committee for the purpose of more accurately determining the effects of light upon the eye. The first of these has been devised by Dr. Ferree, professor of psychophysics at Bryn Mawr College, and will be used to determine the scale or general level of efficiency of the eye. It is based on the observation that if the eye's efficiency is to change at different times and under different conditions of lighting, it should be manifest in changes in brightness discrimination, color discrimination, or visual acuity.

Test A, for Color Discrimination. Threshold, or limen, test. The colored light will be obtained by reflection disks of standard colored and gray papers (*e. g.*, the papers of the Hering series) rotated on a color mixer. In making this test the pre-exposure and the surrounding field shall be made of a gray of the brightness of the color at or near its threshold value. The illumination of the room will be kept constant from test to test.

Test B, for Brightness Discrimination. The above test is the most sensitive and practical for this purpose also.

Test C, for Visual Acuity. Test object employed: (*a*) Two parallel vertical lines stamped one millimeter apart on a white card; (*b*) the letters li printed in small type also on a white card. In using these cards, the observer's acuity of vision is determined by the distance at which he can just clearly distinguish in every detail the two test objects. Dr. Ferree claims that the results are thus rendered directly in terms of clearness of vision, and that there are no progressive errors introduced by memory and fatigue.

Application of Test C. The test object is placed at (*a*) the maximal distance at which it can be seen clearly in momentary judgment, and at (*b*) a distance less than this. After intent gazing for some minutes, the test objects are seen alternately as clear and blurred. The time they are seen clear and blurred is recorded on a rotating drum upon which a line registering sounds is also run. From this record the ratio of the time seen clear to the time seen blurred is determined, and the ratio thus obtained may be taken as a measure of the efficiency of the eye at the time the test is taken. The record is made, of course, at the beginning and at the close of work.

Another member of the committee, Dr. P. W. Cobb, has devised two new methods to determine fatigue of the extraocular muscles. The first he has designated as the "flickering spot." On a field continuously illuminated, the subject sees a figure, say a star, which is intermittently illuminated at such a rate that flicker is barely perceptible and at such an intensity that the figure and the background appear equally bright. As the eye is fixed on this, its slightest movement is at once evident to the subject in that there occurs a black and white barred appearance of the borders of the figure. His second test is the counting of dots placed in a row. In order to count such objects with certainty, the eye must fix successively on each with certainty, and the maximum distance from the eye at which a given row can be counted is a measure of the certainty with which eye movements can be carried out.

This briefly is the plan of procedure which the committee has adopted for the coming year, and it is hoped that by the next meeting of the American Medical Association in June it may be possible to present some conclusions which are fairly accurate regarding the influence of the lights used in the three tests outlined above.

In the remainder of the time allotted to this paper, it may not be amiss to give a short résumé of a few of the conclusions which have been arrived at regarding the effect of certain forms of light rays upon the human eye.

First as to ultra violet rays. Extreme ultra violet rays, as well as those which extend into the violet of the visible spectrum, have long been recognized as injurious to the eye. Physicists generally recognize the visual spectrum to include radiations having wave length of about 723 microns at the red end to those of about 397 microns at the violet end. Still further beyond the red rays of the visual spectrum, however, are rays of greater length, the ultra red, which cause a rise in temperature, while further beyond the violet end are shorter rays, the ultra violet, which are capable of giving rise to chemical reaction. Briefly stated, the specific action of various radiations upon the eye has thus far been determined to be as follows:—

1. All the media are uniformly permeable to rays between the wave lengths 660 to 390 microns.

2. The cornea absorbs in general radiation below about wave length 300 microns. It is in consequence of this absorption that certain inflammatory conditions arise in the cornea, especially in the epithelial cells.

3. Rays of wave length less than 350 microns are absorbed completely. Widmark believes that this absorption produces injury to the lens and Schanz and Stockhausen attribute glass blowers' cataract to this cause.

4. It will be seen, therefore, that with the cornea absorbing rays of wave length less than 300 microns, and the lens those less than 350, the retina is well protected from ultra violet rays. Hallauer, however, has demonstrated that in early youth the lens may transmit rays, though to a moderate extent, from about 330 to 315 microns, which may act deleteriously on the retina.

As the ophthalmological mind is not yet wholly accustomed to the comprehension of statements expressed in microns, it may be a solace to be assured in everyday phraseology that Dr. Louis Bell, after a series of exhaustive experiments, is convinced that the ultra violet radiations met with in the operation of ordinary artificial light sources are not dangerous provided they are treated with the respect properly due to unpleasantly brilliant sources of light. He believes that "injury from any of them is in the last resort dependent on the reception of an amount of energy not likely to be received in any casual or accidental manner," and while definite injuries have been reported even from ordinary incandescent lamps, his experiments indicate that the dangers of ultra violet radiations have been grossly overestimated. When under extraordinary conditions it is desirable to cut off all of the ultra violet rays, the same investigator has proved experimentally that this is best done by amber glass.

Of great importance is the determination of the question whether lights much different in color from daylight are harmful to the eye purely because of the large color difference. Dr. H. E. Ives has investigated this subject very thoroughly and from the spectrophotometric curves which he obtained in his experiments has made it clear that the majority of artificial illuminants vary from white in the direction of less blue and more red, and that they are in fact nearly all yellow. He has showed that the carbon arc is by far the nearest white of the incandescent solid illuminants, although its hue is decidedly toward yellow. We are indebted to Dr. Ives for a standard of daylight color value and for a comparison of most of the artificial illuminants in common use with this. His results will be of exceeding value in further investigation in determining the specific effects of color in illuminants.

In a paper entitled "Physiological Points Bearing on Glare," Dr. P. W. Cobb, along with other factors, considers at length the relative overbrightness of parts of the visual field. He points out that man prefers to have the upper parts of his visual field relatively dark, which corresponds to the ordinary daylight house illumination. If these conditions are reversed, glare, which he defines as "discomfort or depression of visual functions associated with strong light sensation," begins to be noted. Dr. Cobb also dwells upon the strain upon the extraocular muscles occasioned by the imbalance necessitated by maintaining a focus upon one object while the images of extraneous light sources fall elsewhere than on the macula, thereby inviting the eyes to a change of position. As a practical deduction from his observations, Dr. Cobb has concluded that scattered light in the eye from a side-light source is a large factor in reducing visual acuity, and suggests the possibility of making a physiological diagnosis of a system of illumination by means of an estimation of the definite changes that are excited in the retina, which persist, under side illumination of the eye, after the light is cut off.

Depression in visual function has been especially studied by A. J. Sweet, of Newark, Ohio, and he has concluded that it is caused by any light which enters the eye from other than the visualized object, or from the visual object in larger quantity than is required to properly visualize it. The degree of depression in visual function depends, therefore, according to this observer, upon the total amount of light which enters the eye and upon the angle with the line of vision at which each integral portion of such light enters the eye. Among other interesting and valuable data, he found that depression in visual function ceases at approximately twenty-five degrees with the line of vision.

A point of great practical importance raised by Sweet, working in collaboration with L. C. Doane, is that light-colored walls serve very materially to depress the visual function, even when every practicable arrangement is made to avoid overillumination of the walls.

In opposition to this view, however, it should be noted that a committee of oculists and electricians, appointed by the Boston School Committee in 1907 to consider the artificial lighting of the public schools and their color schemes, reported that the color of the walls, window shades and woodwork in school rooms must be very light. In their opinion, this is necessary, first, to enable the walls to reflect the light instead of absorbing it, and, second, to avoid sharp contrasts between the surrounding colors and the white sheet of paper upon which the pupil is looking most of the time. The committee claims that if the contrast is at all marked, there is fatigue and discomfort of the eyes, and the greater the illumination of the white page beyond a certain point, the greater the fatigue and distress. Regarding the comparative merits of direct and indirect illumination, the committee was of the opinion that for schoolroom lighting there are certain serious disadvantages inseparable from systems in which indirect light preponderates. (1) Indirect light produces the unfortunate psychological effect of insufficient illumination. (2) Recently published experiments in the *Illuminating Engineer* of October, 1907, point to the fact that with indirect illumination the amount of light for comfort in reading must be sixty-five per cent. greater than with direct. (3) Indirect light is an abnormal form of lighting, seldom or never to be found in nature, to which the eye is unaccustomed. (4) With it we lose the shadows by which we judge distance and relief. (5) The illumination of surrounding objects and that of the work on the desk are the same, while experience has shown that, whereas it is unwise to light the work greatly in excess of surrounding objects, a small amount of superior illumination makes for comfort. (6) It is conceivable that light reflected from the ceiling and colored surfaces may undergo some change interfering with its efficiency.

The most satisfactory results were obtained from thirty-six candle-power forty-watt tungsten lamps, each equipped with a diffusing prismatic reflector. The lights were arranged in three rows of three lamps, each running parallel to the rows of desks, so that the center of light distribution was slightly to the left of the middle of the room when facing the teacher's desk. It was found that with this arrangement of the lights and with the lamps ten feet and six inches above the floor, the candle-foot illumination on top of each desk was approximately 2.5 candle feet at each desk.

Curtailment of time, however, forbids the writer to continue further. A fuller résmné containing the results of the researches of Hess, Parsons, Bell, Black and others will be made the subject of later communications.

THE PREVENTION OF INDUSTRIAL PLANT INJURIES TO THE EYE.

BY WILLIAM W. BLAIR, M.D.,
Pittsburgh.

(Read in the Section on Eye, Ear, Nose and Throat Diseases of the Medical Society of the State of Pennsylvania, Scranton Session, September 24, 1912.)

It is probably true that no one, whose professional work brings him into daily contact with eye injuries, can fail to be impressed with the fact that by far the greater number of these cases result from carelessness, and could, in the majority of instances, have been avoided by the employment of comparatively simple preventive measures. As to the importance of prevention, in this respect, there remains the fact that eye injuries, especially those incident to the various occupations, are of such a grave character that the surgeon is many times powerless to avert the complete loss of the injured organ or organs, and total blindness and disability supervene in spite of all forms of treatment; "first aid," early treatment, and the best of hospital facilities are alike useless.

The point I wish to emphasize is that eye injuries in general, and in particular those mutilating injuries so often seen in mill accidents, are so frequently hopeless from the start that any plan or generally adopted scheme for their prevention seems to me to be of first importance.

How frequently have we seen a brilliant magnet extraction, succeeded by a soft, shrunken, useless and dangerous eyeball, or weeks' and months' treatment of a general burn from a bit of molten steel, or Babbit metal followed by a destructive symblepharon!

The subject has many phases and I have been at a loss to know how to present my ideas in a brief but comprehensive form. Let me begin with the simplest form of injury; namely, the foreign body on the cornea. In our district, nearly every large metal-working plant rejoices in the possession of a man, usually a foreman, who is reputed to have wonderful skill in removing foreign particles from the eye,—emery, steel, and the like. This individual's method is to flood the conjunctival sac with cocain solution, ten per cent., I believe, is preferred; the victim is then backed up against the mill gate, his eyelids forcibly separated and the cornea thoroughly scraped with the blade of a pocket knife; if after the effect of the cocain has passed off there be still some feeling of irritation, the operation may be repeated. The results of this kind of treatment, that is, corneal ulceration, and even corneas entirely denuded of epithelium, I have repeatedly seen. The means of prevention are obvious, the foreman's office should not be furnished with cocain, and all cases of imbedded foreign bodies should be seen by the mill surgeon; this is now the practice in a large number of plants, with which I am acquainted.

In this connection I consider it proper to refer to another phase of prevention which has only recently received the emphasis which it deserves; namely, the clearing up, by operation or other measures, of all cases of lacrymal sac infection, without regard to the subjective symptoms to which they may be giving rise. I put it in this way because, as we all know, an epiphora with slight mucocele is often borne by an individual for years, he being under the impression that the affection is of no moment excepting the annoyance caused. It has been fairly well established, I think, that the ulcus serpens is in nearly every case due to the direct invasion of the cornea, through an abrasion of the latter, by the *Diplococcus lanceolatus*, or pneumococcus; furthermore a bacteriological examination of the expressed contents of a dilated, catarrhal lacrymal sac almost invariably discloses the presence of the pneumococcus, whereas, this organism is not ordinarily found in the healthy conjunctival sac; therefore, I consider any diseased and discharging lacrymal sac to be a constant source of gravest danger to any eye, but more especially concerned are the eyes of those who work at the anvil, forge, in coal mines, or at other occupations in which the cornea is in more or less constant danger of receiving even slight abrasions. The following case is illustrative:—

A coal miner, aged fifty-four years, was brought to me suffering with an extensive serpiginous ulcer, in the center of his right cornea; the left cornea showed a large central opacity, evidently the result of a condition similar to the acute inflammation now obtaining in his right eye. The man stated that he had lost the vision in his left eye three years previously from a "sore eye," which was like the present inflammation in his so-called good eye. In the examination of both eyes, firm pressure over the region of the lacrymal sacs was followed by the appearance in both conjunctival sacs of a large quantity of mucopurulent material, in which the pneumococcus was found in large numbers.

As to the graver accidents, I must say that prevention is not so simple. In considering briefly this subject a year ago before this society, I recited the experience of the Carnegie Steel Company in the installation of various preventive devices, and showed some photographs[1] of the same, some of the latter I have here again for your inspection.

EXHIBITION OF PHOTOGRAPHS.

Referring to photographs shown, a few remarks as to detail may be advisable:—

Nos. 1 and 2 show one of the best devices for the covering, in a protective manner, of the deadly glass water gauge, the frequent bursting of which has destroyed so many eyes. The arrangement, which permits the guard to be easily thrown around the glass when boiler is being filled and instantly opened again for inspection, is especially good.

No. 3 shows a somewhat similar device which is not quite so practical, owing to the fact that the covering is not easily removable, and may become so soiled with oil and dust as to obscure the gauge glass itself.

No. 4 illustrates a hot saw guard, which is designed to protect not only the workmen from sparks in the immediate vicinity of the tool, but, also, to prevent the parts of the wheel from flying to distant portions of the mill.

No. 5 calls to mind one of the details of iron and steel working which is most prolific of eye injuries; namely, the chipping of castings. This work must be done largely by hand, and in modern practice it is necessary to protect the workman and his assistant and also others in the vicinity, so that the men actually engaged in the work must wear protecting goggles and the chips be caught by a burlap screen, as shown in photograph.

Nos. 6 and 7 show practical devices for the guarding of emery wheels (here the added protection of gauze or glass goggles is insisted upon) and this is further emphasized by a sign placed in a prominent place by the wheel, as well as a plentiful number of goggles of different types.

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[1] Pa. Med. Jour., Feb., 1912, p. 366.

No. 8 shows a device for the protection of those engaged in the pouring of Babbit and other metals.

No. 9 illustrates a method of protecting workmen engaged in electric fusing of metals.

Nos. 10 and 11 call attention to another frequent source of eye injuries, namely, the use of tools, such as hammer and chisel heads, which have been badly furred through long use. This source of danger has long been recognized, and in some plants very particular attention has been paid to the frequent dressing of all such tools, and the careful inspection of the same at frequent regular intervals.

Not to tire you with too much detail, I will pass the remainder of the photographs about, as they are mostly self-explanatory.

These pictures speak for themselves; their lesson is easily learned and one might think the question easily solved, but it is not so, for when these things are first brought to the notice of a mill superintendent, he will be apt to say, "Oh, yes, these safety devices look very well in the pictures, but my men won't use them," and it is so; at first the men claim that the protective goggles obstruct their vision, or that the emery wheel guard is awkward to work with and other objections are made. The only answer is that constant reiteration and enforcement of the rules will gradually accustom the men to the routine use of the various protective devices, it has so worked out repeatedly where the head men believe in it, and have the force and perseverance to keep at it. The use of goggles, shields, and guards must be a matter of rigid rule, not a suggestion. I am told that it has worked well to supply say, at an emery wheel, three or four various types of protective goggles so that workmen may have a choice, but some one of these he must put on.

One of the phases of paternalism in government is the forcibly taking care of the individual who refuses to take care of himself; this is exemplified in Germany, in almost every walk of life, and in no phase more strikingly than in this very matter of accident prevention.

That brings us to speak about employers' liability acts, workingmen's insurance laws and the like, in which Germany is teaching the world. In this country, as in Germany and in England, it is coming to be recognized that every occupation carries a risk which varies with the nature of the same, and consequently the workers in various lines should be protected by insurance; the cost of this insurance should rightly be borne by the individual industry in question, which must in turn be added to the cost of production. When this great principle shall be fully recognized, and such recognition take the form of proper federal enactments covering workingmen's insurance provisions, it will be but a short step to have more or less complete protection to the eyes of all workers in industrial plants. The one is the natural complement of the others, for it is easy to see that where an insurance is carried, covering a certain occupation, the cost of which is borne mutually by the employer and the employed, the enjoyment of which demands the use of approved safety devices, there will no longer be any question of persuading the men to avail themselves of the provided protection.

I have dwelt at some length upon this matter because I think we, as medical men, should give some thought to the significance of workingmen's insurance laws, which are certain to be up for consideration in the near future, to the end that we lend our support to all such movements which tend eventually toward accident prevention.

The discovery of the means of preventing yellow fever saves every year more lives than we lost in the Cuban War.—Gen. Leonard Wood.

THE SOCIOLOGIC ASPECT OF ERRORS OF REFRACTION.

BY WILLIAM ZENTMAYER, M.D.,
Philadelphia.

(Read in the Section on Eye, Ear, Nose and Throat Diseases of the Medical Society of the State of Pennsylvania, Scranton Session, September 24, 1912.)

The bearing of ametropia to sociology may be considered in its relation to conservation of vision, to efficiency of labor, as a factor in education and in the moral development of the child, to its influence upon the mental processes of the individual, and in its relation to workingmen's compensation laws and as a factor in safeguarding entrusted human lives.

Conservation of Vision. While a direct causative effect of errors of refraction can be traced in a few serious diseases of the eye, which may ultimately lead to blindness and thus become a distinct sociological factor, that they play a not unimportant contributing cause in many can not be gainsaid. The proneness of hyperopic eyes to glaucoma is to be found largely in the anatomic peculiarities of such eyes, but the excessive contraction of the ciliary muscle required for the correction of the focal defect with its accompanying congestion of the uveal tract undoubtedly acts as a predisposing factor. The influence of errors of refraction in the production of cataract is exerted in the same way. Amblyopia exanopsia, usually due to an error of refraction, leaving, as it does, the afflicted individual with only one useful eye, increases the chance of total blindness from disease or accident. In the presence of a dyscrasia, astigmatism and hyperopia are to be considered as possible exciting factors in the causation of inflammatory diseases which may terminate in blindness.

Efficiency of Labor. In the broad scheme of increasing the efficiency of labor, a problem that to-day is engaging the attention of the sociologist, the direction of energy along the lines of least resistance, the organization of teamwork and the proper alternation of periods of work with periods of rest, are important, but all are of secondary importance to the maintenance of health and the improvement of the functioning of the special senses, more especially those used in a given employment, the impairment of which is almost of a certainty to affect deleteriously the others.

In all professional, clerical, textile and mechanical occupations, in which the work is performed at such distances and is of such a character that the power of accommodation is constantly employed, in short, in almost all callings except the class broadly designated as the laboring class, normal eyes or eyes rendered so by optical or surgical treatment are essential to full efficiency of the individual.

Factor in Education. An important consideration is the effect of eyestrain upon the mental development of the child and the possible effect upon its character, disposition and trend of thought. We are all familiar with the backwardness of children directly traceable to the existence of ametropia. This may be due to an error of refraction sufficient to materially reduce vision or of a less degree associated with an unstable nervous system.

Factor in Moral Development. It is no mere fancy to say that if such errors be overlooked and the child find study difficult or impossible he may, as emphasized by Dr. J. G. Parsons, seek to escape it by truancy which begets mischievousness, idleness and even crime. In this connection, however, it is well to quote Walton, who in writing upon degeneracy and errors of refraction says, "The subject is of interest to the oculist for two reasons; the so-called stigmata of degeneration include a large number of ocular defects such as astigmatism and other errors of refraction." "In the second place it is of practical importance to recognize these signs, since they often indicate the constitution and the character of the individual. For in estimating the relation of eyestrain to headache or other nervous disturbances it must be remembered that such symptoms may be constitutional as well as reflex." From my own experience in a large reformatory I would say that the above quotation contains the gist of the subject. There can be no question as to the relatively large number of high degrees of ametropia in the inmates of such institutions, and also that there is rarely a causative relation between the ocular defect and the moral obliquity.

While extreme moral degeneracy traceable to errors of refraction is without question very rare, we have all met with numerous instances in which a child's irritability, perverseness and, apparently, pure cussedness have been set aside by the wearing of glasses. A boy with squint will find his deformity the object of the taunts and ridicule of his schoolmates and according to his temperament it will tend either to make him shy and sensitive or, if he be aggressive, resentful and pugnacious. The effect of such a defect upon a girl is almost certain to make her shy and irresponsive and may profoundly influence her whole life.

Effect upon Mental Processes. We are all familiar with the attempt to prove by analysis of the autobiographic notes of men of genius that their philosophy has been tinctured by physical and mental distress arising from uncorrected errors of refraction. Be this as it may, there can be no question but that the person with a high degree of myopia is apt to be introspective and studious because his defective vision deprives him of obtaining his pleasure as do other children, and, as we have seen, internal squint, which in ninety per cent. of the cases results from an error of refraction, may greatly modify the disposition of a child. While we all admit that eyestrain may occasion headache, mental depression and insomnia, few of us could recall cases in which the symptoms have been so profound as to lead to melancholia and suicide. That the sufferings thus produced may terminate in this tragic way is the claim of Pronger, Gould and other writers here and in England.

Epilepsy. Because of the care that epileptics become to the state, and inasmuch as errors of refraction are considered by some to play a part in its production, it is proper that it should be considered in this paper. That there is not unanimity among observers, as to the part played by ametropia in the etiology of epilepsy, is in part due to the obscurity of the pathology of the affection. This has lead to confusion in its classification, some authorities considering it merely a symptom of organic disease, others as a functional neurosis.

Authorities could be quoted, pro and con to the point of weariness, as to the relation of eyestrain to epilepsy. Assuming that there is a reflex form of epilepsy, it is fair to say that there are some conservative ophthalmologists who believe that this may be excited by errors of refraction, their associated muscular anomalies, or both. In 1902 our chairman reported an interesting series in which cures or practical cures resulted from wearing glasses suitable for the existing ametropia and heterophoria. Hansell says that an unbiased opinion, based on an exhaustive analysis of the literature both from the viewpoint of the ophthalmologist and of the neurologist, expressed tersely would be that "exceptionally the so-called reflex and idiopathic epileptic convulsions may be cured by the correction of ocular anomalies."

Workingmen's Compensation Laws. As pointed out by Shastid in consequence of workingmen's compensation laws, which render employers liable for injuries to their workmen irrespective of technical matters, it is important for him to know to a certainty before he grants employment that the applicant is possessed of sufficient visual power to keep him from being hurt. Visual deficiencies which would jeopardize a man in his employment would usually be due to diseased condition of the media or of the optic nerve, retina or choroid. Refraction errors are less likely to endanger limb or life because the field of vision is not materially contracted and because such errors being usually of a congenital nature the possessor of them has learned in a measure to compensate for them. But there can be no doubt that errors of such a degree as to materially reduce vision and thus require the eye to be brought closer to the work than is usual would entail danger by bringing the body in proximity to unprotected (but under natural conditions, safe) parts of machinery.

Safeguarding Entrusted Life. The danger to the lives of those entrusted to the care of pilots and engineers with visual acuity reduced below a standard based upon the visual requirements of such occupations makes the detection of the deficiency all important. In many instances this will be found to be due to errors of refraction.

From a consideration of the foregoing the following suggestions are considered timely:—

1. As affections of the eyes that may lead to incurable blindness and consequently to an economic loss and a possible tax upon the community may have their origin in, or be aggravated by, errors of refraction, such errors when producing symptoms should at once be corrected.

2. That it would aid in the efficiency of labor and prove an economic saving for corporations or others with large office forces to require of applicants for employment an examination of the eyes by a competent ophthalmologist and, where errors of refraction are present of a degree which in his judgment require correction, to insist upon their correction.

3. That the examination of the eyes of school children should be compulsory by state law (such a law is upon the statute books of but very few states). That such examination should be made in a thorough manner by a competent ophthalmologist, and not as is done in most cities by physicians, nurses and teachers who in a perfunctory manner endeavor to ascertain only the vision and this under conditions which give entirely untrustworthy results.

4. That as it seems possible that certain types of epilepsy may have a reflex ocular origin, this question be made the subject of further careful institutional study.

5. In consequence of the adoption in many of the states, and the probably final adoption in all of the states, of workingmen's compensation laws, it is of the utmost importance to employers to have the eyes of their employees and applicants for positions examined by competent ophthalmologists and, where subnormal visual acuity exists as the result of errors of refraction, to have it brought to normal by the correction of the error.

6. That a campaign of education of the public to the danger of entrusting the examination of the eyes and the treatment of defective vision to those whose only qualification is their assurance, and their only aim the successful accomplishment of a business transaction. That this be done through the columns of such papers as hold the public good above commercialism.

Throw away, in the first place, all ambition beyond that of doing the day's work well. The travelers on the road to success live with the present, heedless of taking thought for the morrow, having been able at some time, and in some form or other, to receive into their heart of hearts this maxim of the Sage of Chelsea: your business is "not to *see* what lies dimly at a distance, but to *do* what lies closely at hand."—OSLER.

OPHTHALMIA NEONATORUM AND ITS RELATION TO BLINDNESS.

BY EDWARD B. HECKEL, A.M., M.D.,
Pittsburgh.

(Read in the Section on Eye, Ear, Nose and Throat Diseases of the Medical Society of the State of Pennsylvania, Scranton Session, September 24, 1912.)

The logical consideration of this subject as limited by the title of this part of the symposium is: Does ophthalmia neonatorum result in blindness? If so, why, and to what extent? who is to blame? and what can be done?

The answer to the first question is so apparent that even the layman is ready to answer unqualifiedly, yes. So much has been written and said within the last few years upon this subject that almost every one is familiar with the fact that blindness does result from ophthalmia neonatorum.

Why does blindness result from ophthalmia neonatorum? In the first place because the disease exists, and in the second place because experience has shown that a typical purulent conjunctivitis of the newborn is a severe inflammatory process of the conjunctivæ with a tendency to attack the cornea and result in a necrotic process of the same; and experience has still further shown that many cases, in spite of the fact that they have been seen and cared for from the onset by the most competent and skilled ophthalmologists, under the most favorable conditions, have resulted in a sloughing of the cornea, an escape of the lens and eventual blindness. The number of cases of damaged eyes under these circumstances is difficult to estimate, yet a fair idea may be gained from the statistics of four large European hospitals; out of 2252 cases of ophthalmia neonatorum 3.1 per cent. resulted in lost or damaged eyes.[1] There is no doubt but that the percentage under ordinary circumstances is much greater, as the experience of any ophthalmologist will verify. The reason for this I believe is found in the bacteriology of the disease, as not all cases of ophthalmia neonatorum are caused by the gonococci. They may be the result of the Koch-Weeks' bacillus, of pneumococci, of gonococci pure or in combination with streptococci or with Koch-Weeks' bacillus or with pneumococci or the bacillus coli, or the bacteriological finding may be negative.

Consequently many cases which are diagnosed, without bacteriological examination, as ophthalmia neonatorum simply because they are some form of conjunctivitis occurring in the newborn and which would get well if left alone or under the most simple form of cleanliness, are treated by some physicians as typical conjunctivitis. Encouraged by their results in these cases the physicians feel that they have actually cured the disease, which as a matter of fact has gotten well in spite of their treatment, rather than on account of it, and they keep on until they come across a real case which does not do well and then, not infrequently after the cornea has sloughed and the lens escaped and the eye is hopelessly lost, they cry for help and call in an ophthalmologist, who is expected to, and usually does, protect his colleague by telling the family that all has been done which was possible and in many cases the treatment as outlined by the attending physician is quite classical. But in these cases, as in most treatment, it is not so much what is used as how it is used. I do not wish to be misunderstood as holding up our colleagues to ridicule, but it is a sad fact, which all ophthalmologists can verify, that as many or more fatal cases reach the ophthalmologist through some of our colleagues than by way of the midwives.

Notwithstanding, however, our profession is not open to the criticism heaped upon it by the gross misstatements, made by enthusiastic social workers and even by others who should know better, that one third or more of all the blindness in existence is the result of ophthalmia neonatorum. Whether these statements are made consciously or unconsciously or merely for dramatic effect, the fact remains that it is a reflection more or less upon the medical profession, which is not justified by actual statistics. In Bulletin No. 49 of the Public Health and Marine Hospital Service of the U. S., issued October, 1911, devoted to ophthalmia neonatorum, the author, J. N. Kerr, assistant surgeon, in the opening paragraph says, "The disease (ophthalmia neonatorum) and its methods of transmission have long been known, and it is recognized that it is easily preventable. Notwithstanding this fact, it is generally estimated that from twenty-five to forty per cent. of all blindness can be referred to this cause (ophthalmia neonatorum)." This is a statement which is not borne out by facts, and the falsity of which I shall demonstrate.

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[1] Stephenson: Ophthalmia Neonatorum, p. 15.

Now for a few facts gleaned from the census of 1900. The enumerators for the census of 1900 reported a total of 101,123 persons alleged to be blind. This number was subsequently greatly reduced by correspondence; 8842 of those alleged to be blind reported that the alleged defect did not exist, and 6544 reported that they were blind in one eye only and had normal vision in the other; 19,884 failed to make any reply, leaving a total of 35,725 to be eliminated. So there remained for statistical purposes 64,763 of which 35,645 were totally blind and 29,118 partially blind. Perhaps the 19,884 persons who did not reply should be included in the grand total.

Now regarding ophthalmia neonatorum as a causative factor in the blind as enumerated, the census of 1900 states, "Excluding congenital defects and injuries, accidents and operations, there were 2556 who lost sight after birth but under one year of age, and in 644, or 25.2 per cent. of these cases (*i. e.* of the 2556), the cause of blindness was probably ophthalmia neonatorum." Or in other words the 644, who probably became blind as a result of ophthalmia neonatorum, represent less than one per cent. of the grand total of 64,763, or less than two per cent. of the 35,645 who were totally blind. Thus you see the supposed twenty-five to forty per cent. dwindles to less than one per cent. by actual statistics.

The census for 1910 promises much more accuracy in its details, but is as yet not available. I, however, succeeded in getting from the census bureau actual facts as to the number of blind in 1910,[2] which is 59,596 after excluding all those incorrectly reported, as against 64,763 in 1900, a reduction of 5167; *i. e.* there were 5167 more blind persons in 1900 than in 1910, notwithstanding the increased population.

Now for a few facts as to the prevalence of ophthalmia neonatorum in various institutions. Sydney Stephenson in his classical monograph on ophthalmia neonatorum details a number of figures taken from British institutions, between the years 1876 to 1901, and out of 407,202 eye patients there were 5129 cases of ophthalmia neonatorum, or 1.25 per cent., and of American institutions, out of a total of 941,080 eye patients, there were 4447 cases of ophthalmia neonatorum, or 0.47 per cent. I am sure if more recent statistics could be had, the number would be still less. To quote Sydney Stephenson, "Every ophthalmic surgeon will admit that cases of ophthalmia neonatorum are becoming scarcer and scarcer. Speaking for myself, I used to see five cases ten years ago (*i. e.* 1897) in London, where I hardly see one nowadays, although the amount of clinical material at my disposal has increased in the meanwhile." I can not but feel that this is the experience of many of us.

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[2] Obtained by the courtesy of my friend, Mr. E. E. Eggers, librarian of Carnegie Library, N.S., Pittsburgh.

The value of proper prophylaxis is shown by the statistics furnished by a committee of the American Medical Association of which our honored guest, Dr. Lewis, was chairman. Out of 12,298 births there were 346 cases of ophthalmia neonatorum, or less than three per cent. My colleague, Dr. H. A. Miller of the Allegheny General Hospital of Pittsburgh, has had but one case of ophthalmia neonatorum out of 1262 births during the last seven years, in his hospital work. In all these proper prophylaxis was used.

However small the actual number of cases may be, as long as any cases occur it is our duty to fight this dread and really preventable disease. Our efforts against its abolition should not cease until the disease has actually been stamped out and the famous aphorism of Herman Cohn, "Die Blennorrhoea Neonatorum kann und muss aus allen civilisirten Staaten verschwinden," has become an actual fact.

Much good has been done by legislation, both here and abroad. In our own country we now have laws relative to ophthalmia neonatorum in twenty-five states, beginning with Maine in March 28, 1891, to New Hampshire, the latest one, bearing date of April 12, 1911.

We must look, however, to our own profession for the actual results. it therefore behooves us to further and continuously assume this responsibility, a large share of which rests with those who have the care of teaching the recruits to our profession, for how can they recognize or re-cognize something which they have never learned to cognize.

Many years ago Oliver Wendell Holmes said that the proper way to produce a gentleman was to begin with the grandfather, so to-day the proper way to prevent blindness by ophthalmia neonatorum is to prevent the disease, by beginning with the mother, yes, really with the father, before the child is born, and continuing the prophylaxis with all children after birth. Although thirty-one years have gone since Credé first published the results of his prophylaxis, it is still not in general use. It has been shown conclusively that the instillation of one per cent. or two per cent. solutions of silver nitrate never result in any harm, and if so why not use it as a routine in all the newborn irrespective and notwithstanding?

I herewith reproduce a copy of the law as it stands on the statute books of our own state. That all parts of this law are never carried out goes without saying. In Pittsburgh copies of this Act are kept on hand by the Bureau of Health and distributed from time to time to all midwives and nurses. The circular is printed in four languages.

NOTICE TO ALL MIDWIVES AND NURSES.

Your attention is called to the Act of Assembly printed herewith. If one or both eyes of any infant under your care becomes inflamed or swollen or reddened at any time within two weeks after birth, you shall at once notify the parents or guardians to place such infant immediately under the care of a legally qualified physician and shall further notify this bureau of your action.

An Act for the prevention of blindness, imposing a duty upon all midwives, nurses or other persons having the care of infants, and also upon the health officer, and fixing a penalty for neglect thereof.

Whereas, Statistics compiled in this country and Europe demonstrate that fully twenty-five per centum of the blind owe their affliction to an inflammation of the conjunctiva appearing a few days after birth;

And whereas, Experience has proved that the inflammation can be cured and the eyesight saved in the majority of cases if treatment be instituted at an early stage of the disease;

And whereas, Destruction of the eyes and blindness are usually the result of delay of treatment.

Section 1. Be it enacted, etc., That should one or both eyes of an infant become inflamed or swollen or reddened at any time within two weeks after birth, it shall be the duty of the midwife or nurse, or other person having the care of such infant, to report in writing, within six hours after the discovery thereof, to the health officer or legally qualified practitioner of the city, town or district in which the mother of the child resides, the fact that such inflammation or swelling or redness exists.

Section 2. That it shall be the duty of said health officer, immediately upon receipt of said written report, to notify the parents or the person having charge of said infant of the danger to the eye or eyes of said infant by reason of said condition from neglect of proper treatment thereof.

Section 3. Every health officer shall furnish a copy of this act to each person who is known to him to act as midwife or nurse in the city or town for which such health officer is appointed, and the Secretary of State shall cause a sufficient number of copies of this act to be printed and supply the same to such health officers on application.

Section 4. Any failure to comply with the provisions of this act shall be punishable by fine not to exceed two hundred dollars, or imprisonment not to exceed thirty days, or both.

Approved—The 26th day of June, A.D. 1895.
DANIEL H. HASTINGS.

INSTRUCTIONS TO NURSES AND MIDWIVES FOR TREATING INFLAMED EYES IN NEWBORN INFANTS, UNTIL THE PHYSICIAN ARRIVES.

To one pint of boiled water add two teaspoonfuls of boric acid and half a teaspoonful of table salt, and keep covered in a jar which has been boiled. With a perfectly clean cloth or a wad of absorbent cotton bathe the lids with this solution, and drop a few drops in the eye three times a day.

BUREAU OF HEALTH, Pittsburgh.
January, 1909.

I also offer a copy of instructions to midwives for the care of the eyes in babies, as distributed by the Bureau of Health of Pittsburgh.

DEPARTMENT OF PUBLIC HEALTH, PITTSBURGH: INSTRUCTIONS TO MIDWIVES FOR CARE OF THE EYES OF BABIES.

CAUSE OF BLINDNESS.

More than one fourth of all blind people have lost their eyesight because of the ignorance or neglect of those who cared for them at the time of birth.

The most common cause of blindness is an infection of the eyes which occurs at birth, unless proper precautions have been taken. Within a few hours after birth, or at any time within a few days, there appears a thick, sticky, whitish or yellowish discharge of pus ("matter") in the baby's eyes and the eyelids grow dusky-red, thickened and swollen. *This condition often results in complete blindness within a short time.* Blindness from this cause can be prevented. It is the duty of every midwife or nurse entrusted with the care of newly-born babies to prevent this infection and to preserve the baby's eyesight. *Prevention is simple and easy,* while cure is difficult and uncertain.

The Department of Public Health requires that the following instructions be carried out by all midwives:—

WHAT THE MIDWIFE SHOULD INSTRUCT THE MOTHERS TO DO BEFORE THE BABY IS BORN.

All pregnant women should thoroughly cleanse themselves daily with soap and water and a clean wash-cloth. If any discharge is present, a physician should be consulted.

WHAT THE MIDWIFE SHOULD DO DURING THE LABOR.

As soon as the baby is born, the midwife must carefully clean the eyelids with water that has been boiled, using a separate soft linen cloth, or clean absorbent cotton for each eye. She should wipe the lids from the nose outward, without opening the lids. Then the eyelids should be separated and two drops of one per cent. solution of silver nitrate dropped into each eye. The drops will be furnished to any midwife free of charge on application to the Department of Health.

HOW TO CARE FOR BABY'S EYES.

The baby's eyes should be attended to every day, after the bath. The hands of the mother, midwife or nurse who attends to this, must first be scrubbed and washed with soap and hot water and wiped with a clean towel. Nothing that is not perfectly clean should touch the baby's eyes. No water, linen cloth, cotton, or any other article used for the mother must be used for the baby. Fresh, clean cotton or linen should be used for the baby's eyes, and after use should be burned or destroyed.

WHAT TO DO WHEN THE EYES GET SORE.

If the baby's eyes get red, if a drop of matter appears between the eyelids or in the corner of the eye, a physician must be called at once.

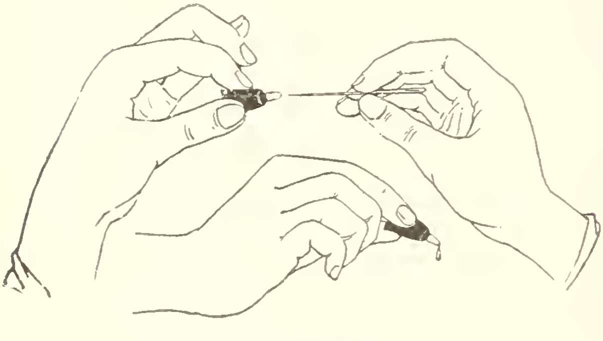
Do not delay in procuring treatment for the baby's eyes, as the eyes can often be saved only by applying proper remedies at once. A heaping teaspoonful of boric acid (bought for a few cents in any drug store) may be dissolved in a tumblerful of boiling water and the solution cooled. This boric acid solution may be used instead of plain, boiled water to wash the eyes, while waiting for the arrival of the doctor.

The drops are put up in sealed packages and directions given for their use. The Health Department furnishes them free. Each midwife should keep a supply for use in each birth she attends.

Each package contains two ampules made of wax, and containing a one per cent. solution of silver nitrate, a cambric needle and directions for their use, printed in four languages, accompanied by an illustration as herewith reproduced.

DEPARTMENT OF PUBLIC HEALTH, PITTSBURGH:

ONE PER CENT. NITRATE OF SILVER SOLUTION FOR THE CARE OF THE EYES OF NEWBORN BABIES, PREPARED BY SCHIEFFELIN AND CO., NEW YORK.



DIRECTIONS.

As soon as the baby is born, carefully clean the eyelids with water that has been boiled, using a separate soft linen cloth or clean absorbent cotton for each eye. Wipe the lids from the nose outward, without opening the lids. Then the eyelids should be separated and two drops of the solution dropped into each eye. The enclosed tubes each contain a sufficient quantity for one case.

In order to use the tube, pierce the end with a needle, as shown in the illustration. Hold the tube between the thumb and first finger, pressing lightly against its sides. A drop of the solution will then appear at the opening.

DYNAMITE CAP INJURIES TO THE EYES.

BY JOHN B. CORSER, M.D.,
Scranton.

(Read in the Section on Eye, Ear, Nose and Throat Diseases of the Medical Society of the State of Pennsylvania, Scranton Session, September 24, 1912.)

Those of us practicing in mining communities see these cases only too frequently and the disastrous results from apparently trivial injuries are most discouraging.

The dynamite caps are made of copper in very much the same way as gun cartridges and are used to explode larger charges of dynamite, giant powder or other high explosives. When exploded, the copper shell breaks into many small sharp pieces which seem to have a peculiarly strong penetrating ability. The caps are handled carelessly by those using them and fall into the hands of boys and others ignorant of their dangerous characters. They occasionally are dropped by the miners and go out of the mines in the coal and are exploded when thrown with the coal in the fire.

It is unnecessary to describe the nature of the injuries received by these accidents. The immediate effect varies usually as to the nearness of the eye to the exploding cap. A small spot on the sclera or cornea may be the only indication that a piece of the shell has struck and possibly entered the globe. On the other hand complete rupture and disorganization of the globe may result. If a piece of the shell has entered the eyeball and can not be removed, the eye will sooner or later be lost, owing to the irritating chemical action of the copper on the ocular contents.

The rapidity with which inflammation ensues depends on the part of the eye in which the piece of copper lodges. The ciliary body and iris seem to be the most sensitive to the presence of copper. The vitreous will tolerate its presence for a longer period. Treatment will only prolong vision by aiding the resistance of the tissues, but blindness finally results.

The difficulties met in trying to remove these pieces of copper from the eye can rarely be overcome and it must have occurred to everyone having these cases, how different it would be if the piece of metal causing the injury was iron or steel instead of copper.

If dynamite caps were made of iron or steel instead of copper these cases would still be serious but how much less so when the foreign body is of a metal that can be attracted by a magnet.

After thinking along these lines sometime ago a letter was addressed to one of the large manufacturers of these dynamite caps, which after explaining the reason for the question, asked if iron or steel could be used in their manufacture instead of copper. A courteous reply stated that, "In the manufacture of these shells it is necessary to use a material which can be transformed from a plate to a tubular shape, with one end closed, without in any way injuring the material, and in order to do this it is best to use copper."

The direct statement that these caps can not be made with iron or steel instead of copper was not made and a friend who is interested in iron manufacturing has given the matter some thought and is of the opinion that a form of iron could be used in place of copper. If a magnetic metal, such as iron, could be used then a very large proportion of the eyes now lost from these injuries could be saved.

There is a widespread and increasing use of dynamite in contracting, farming, ditching, the clearing of land, etc., and there probably will be a great increase in the number of these accidents.

In view of these facts, this paper (if it can be called such) is written, with the idea of ascertaining the views of the section as to whether in the judgment of its members it would be worth while to the public and to ourselves to make the effort to so influence the manufacturers that they will give attention to the matter and if possible provide dynamite caps made with some form of iron instead of copper.

DISCUSSION.

ON PAPERS OF DRS. LEWIS, FRANKLIN, POSEY, BLAIR, ZENTMAYER, HECKEL AND CORSER.

Dr. Samuel D. Risley, Philadelphia: Your chairman has appointed me to a very pleasant duty in opening the discussion on this series of instructive papers. It will, nevertheless, be impossible to touch upon all the points which have interested me. My views are entirely in accord with those which have been brought forward by the essayists.

In the first place, I must congratulate the section upon its willingness to devote an entire meeting to a philanthropic purpose, to the sociologic aspects of our work. The prevention of disease is a higher function than its cure. I wish personally to thank our guest, Dr. Lewis, for bringing to us the results of his work and long experience in this field of endeavor, and to congratulate him on the rich fruitage of his many years of patient labor. The statistics presented by both Dr. Heckel and Dr. Lewis are encouraging. There can be no more striking example of the value of work along sociologic lines than is shown in the rapidly diminishing percentage of ophthalmia neonatorum and trachoma. The same may be said of the work of the ophthalmologist in the examination of the school children's eyes and the correction of visual defects, as brought before us by Dr. Zentmayer. We see this in the great diminution in the number of myopic eyes. High myopia is rare, when compared with former years; and this means fewer cases of blindness from detachment of the retina and, moreover, increases the happiness and usefulness of a much larger number of individuals whose career would have been handicapped by visual defects.

Dr. Lewis H. Taylor, Wilkes-Barre: I feel that truly here is an embarrassment of riches, regarding a discussion of these various papers. When I was asked to discuss them, I felt very strongly that there would be so much said in them, that the papers would be so thoroughly prepared that there would be very little opportunity for discussion. I thought, therefore, that I would limit my remarks to one phase of the subject, yet I find that the very thought that I had intended to bring out has been completely covered in Dr. Blair's paper. Then I found that the very introduction that I had thought of using had been taken by Dr. Risley, the wonderful fact that we are devoting one third of our time at these sessions to the subject of conservation of vision.

The one point that I intended to elaborate a little upon is the number of injuries that those of us who practice in mining or manufacturing communities find, and the fact that so many of these eyes are lost by suppurating ulcers simply through ignorance and carelessness; and I thought to bring out the fact which has been touched upon this afternoon, that the correction of this must be brought about largely through the education of these very people who are the victims of these accidents. Yet how hard it is, as Dr. Lewis has stated, to educate people to take care of themselves! The fact is that they do not—I was about to say that they do not want to be educated. I presume that they do; but they resent interference by any one else in the attempt to educate them. So often we find a case such as was cited by Dr. Blair, and might be by any one of us. I recall one that has recently gone on to destruction, in spite of my care. It was simply a pure case of neglect. The man's eye was injured by a piece of coal in the mines, and was treated by such a person as Dr. Blair has referred to, who probably stood the patient up against the wall and scraped the cornea, and, after a week or ten days, he came to me with a badly suppurating cornea; whereas, had he come to me the very first day of his accident I could have saved the eye that now is lost.

How shall we educate these people? That is a very important point. The fact brought out is that one way is by means of a properly framed compensation bill, compensation for injuries. If the employers of these men knew that they would have to pay for these accidents, they would assist us in educating the men applying for employment to know that as soon as such an accident occurs, they must place themselves under competent care. Here, I believe that the first aid to the injured may fail. I understand that in our mines a splendid work is being done by the first-aid corps; and I have seen illustrations of excellent work done by it with regard to broken bones, etc. If, however, this rule is adopted with regard to eye injuries, I fear that disaster may often result, because the men who are at work in the mines can not be taught to be capable of taking care of eye injuries, which should at once be placed under proper and suitable treatment.

I wish to refer to just one thought regarding Dr. Zentmayer's paper. For many years I have, with regard to the subject of refraction, very often tried to impress upon my patients this fact: "These glasses are not given to make you see a little bit more, because it is a matter of comparative indifference whether you see a little more, in general, or a little less." Of course, we want to help them to see more. That is natural. It is not, however, always the important point; the preservation of vision for the future is the important point. So often we find many cases of disaster resulting simply from the lack of properly fitting glasses. Even yesterday I had to argue a long time with a patient, in order to convince her (and she is not convinced yet) that I can not, after the patient is forty-five years old, prescribe a pair of glasses that will suit for all purposes, for distance and for near at hand. You have already all had the same trouble. This matter of education we must continue, and it is grand that so many are engaged in this effort for the conservation of vision. I want to thank all of the men who have presented these excellent papers this afternoon.

Dr. Herbert Ives, Philadelphia: It is with great interest that I note, this afternoon, the emphasis that has been laid on this society's becoming interested in philanthropic and educational work, as though it were a novelty. I was interested because my being here is the result of a similar movement in the Illuminating Engineers' Society. When that society was founded some years ago by engineers who were interested in the efficient use of light, not many realized that this would include not only efficiency principles, but sanitary, esthetic and safety considerations. The early days of the society were taken up with ideas of how to direct the light and make the most use of it as a scientific proposition; but later, it became generally recognized that there are two factors, the light-source and the organ that will appreciate light, namely, the eye. The Illuminating Engineers' Society has found itself face to face with the proposition that it can not reach its ultimate goal until it calls into service the physiologist, the ophthalmologist and the architect. I do not believe that there is any engineering science that is so widespread in its contact with other sciences and other points of view. We call in the psychologist, the physicist, the artist, and, of course, several kinds of engineers, electrical, gas, civil, mining and mechanical. Of those interested in the use of light, their name is legion, whether in the efficiency side of it or in the esthetic side. We have very naturally learned a great deal because of these contacts, and we think we have been an educational force.

Our society has been occupied up until now chiefly with the analysis of light. I venture to say that we know a great deal about light and light sources that could be of use to all interested in light, especially from the standpoint of the human eye.

Did you ever consider how different artificial light sources are from daylight, which the eye is used to from long ages of adaptation? Even in this room on a clear bright day we have about fifty times the intensity of illumination that we consider ample by artificial light. Then, in regard to color, there are great differences. Most of us know that the "white" tungsten lamp, as compared with daylight, appears to be a deep orange yellow. Then there are the differences in distribution. By day, we have the light from the side, with long shadows. The most pleasant landscapes are those illuminated from the side by the sun. When we have artificial light, we have a distribution "falling down" from above. Then there is the question of intrinsic brilliancy. That of the sky never goes above ten-candle power to the square inch. The tungsten light has one thousand candle power to a square inch.

Our society has learned these various facts. We can analyze and invent and reproduce practically any light, no matter what its color or distribution; but we have then reached our limit, because we must know more about the eye. We have to-day no test, other than tediously acquired experience, to tell us which condition is good and which is bad. It is just in order to learn of such tests that we come to you. As ophthalmologists you can tell us. We think reciprocally that we can help you, for we have learned some things by experience that are not familiar to all.

We have recently considered that we have come to a point where we should no longer hide our light under a bushel. We have appointed a Committee on Reciprocal Relations with Other Societies, for the purpose of getting into touch with those representing sciences with which ours is related. We have, in order to do our part, embodied our knowledge in a primer entitled "Light; Its Use and Misuse," which has just been printed. It consists of a series of "don'ts," illustrated by telling pictures. With each "don't" there is a paragraph. Here are some of the "don'ts": Don't read facing the light; don't use a bright light against a dark background; don't use local lighting by itself; don't waste light by using wrong reflectors; don't use shallow reflectors; don't save light at the expense of your eyes.

A great many of these sound perfectly obvious to all; yet, if I may be permitted to say so, it is in the offices of doctors that I have seen some of the worst examples of these "don'ts." I recently called a doctor's attention to the fact that he had over his roll-top desk a clear bulb tungsten lamp in such a position as to shine directly into his eyes as he worked. The top of his desk was a sheet of clear glass which gave a brilliantly reflected image of the light. I took a sheet of writing paper from his pad and made a diffusing reflector for the lamp without decreasing in any way the useful illumination but entirely obviating the glare of the bare lamp. I recommended him to have the top of his sheet of glass ground to a dull surface. There are infinite opportunities for such improvements, which we feel are necessary for the health of the race.

I was particularly interested in Dr. Zentmayer's paper, in which he referred to the sociologic aspect of errors of refraction. We illuminating engineers could take his paper and at every place where he speaks of "errors of refraction" substitute "errors in the use of light sources," and have our plea well put. The problem of conservation of vision consists not only in the treatment of the eye, but also in the treatment of the light source.

In conclusion, I want to state that through our Committee on Reciprocal Relations, we want to be in touch with societies interested in the use of light; so that the assistance of our members may be placed at the disposal of societies such as yours whenever there arise questions of legislation or anything connected with the analysis of light. Our society is willing to lend its assistance in such matters, and feels that it is best qualified to give assistance of that sort.

I want to say a word about this primer, of which, as I am not connected with its publication, I can speak in terms of great praise. I think that you might well see on what terms you could reprint this primer for distribution, This, I think, would help along greatly the cause of the conservation of vision.

Dr. Wendell Reber, Philadelphia: The secretary suggests that we might make overtures to Dr. Ives to have copies of these primers obtained for distribution among our private patients.

Dr. Edward Stieren, Pittsburgh: We have had such a feast of reason that it will take weeks for us to digest it, much less will we be able to discuss it in the short time left this afternoon. However, there are a few points that should be strongly emphasized, in the matter of industrial injuries, as Dr. Lewis has stated, and Dr. Blair has shown by his illustration. Much has been done in the last two or three years to prevent these accidents. The men are obliged to wear goggles, or something else, to protect their eyes; shields are put over circular saws, emery wheels, etc. These precautions, however, fail in a measure; the men very often will not wear glasses, and suffer by their neglect. In other cases, the glasses given to protect their eyes fail in their object. I have known of three instances in which men wearing goggles of wire mesh, were struck and their eyes more or less hopelessly injured by impact through the goggles which caved in like so much paper. I show a drawing illustrating a case of traumatic retroflexion of the iris and rupture of Descemet's membrane caused by a blow from a six-ounce piece of steel, wire mesh goggles having been worn at the time. I have two more cases that occurred in the same manner while the workmen were wearing protective goggles, one of traumatic cataract, the other of ruptured choroid. I submit a sketch of an improved goggle which will be better, probably, being reinforced by iron wires on the side. Mr. W. H. Cameron, casuality expert of the American Steel Foundaries Company of Chicago, has a bushel basket full of goggles which have been smashed in and the eye injured while the men were wearing them.

Speaking of education, I think that much can be accomplished by enlisting the help of men who have been so unfortunate as to have had eye accidents, by their carrying the gospel of conservation of vision to their fellow workmen. In our hospitals, I encourage visiting by the friends of men who have been injured in the mills. After a man has suffered in this way, if he is urged to do missionary work among the men in the mills, pointing to himself as an example, I believe that much can be done to further the cause.

Regarding Dr. Franklin's remarks on trachoma, it is true, as he says, that we have it with us, and always will. For a while I felt that trachoma was becoming less common in Pennsylvania. As a social disease it is a subject very near my heart, and I thought that we had pretty well eliminated this disease in Allegheny County. We consider it there as one of the acute contagious diseases subject to the same regulations as scarlet fever, etc.

Our acute cases of it can be sent to the Municipal Hospital and treated, and instructions are given the patients, printed in four languages, cautioning them about the care of the disease in order to prevent their carrying it to their housemates. During the last week, five cases have come under my service, two old and three acute cases; so that I feel we must be ever on the alert to prevent its spreading.

Regarding blindness from ophthalmia neonatorum, I believe that a certain proportion of cases are due to bad handling of the patients, rather than to the gonococcus. I have seen cases in which a simple inflammation of the lids excited the fear of the physician, and in which I am confident the overuse of nitrate of silver resulted in destruction of the corneas. Solutions of silver nitrate stronger than two per cent. should never be dropped into the eye, but should only be applied to the everted lids and the surplus mopped off.

Dr. Zentmayer's paper is very valuable, to my mind. I am thoroughly convinced that a large proportion of mentally and morally deficient persons have errors of refraction. In examining juvenile court cases during the past year I found that ninety-three per cent. had errors of refraction. Perhaps you have seen Case's article in the *Ophthalmic Record*, 1906, on "Eye Strain and Crime." He found that thirty-six and a half per cent. had errors of refraction in the Reformatory at Elmira, N. Y. Writing to different penal institutions in the United States he found that thirty-eight per cent. of the inmates showed a lowered standard of vision. There is no doubt in my mind that many such cases are benefited by the wearing of glasses. Case's investigations showed that the wearing of glasses resulted in added efficiency and better conduct all through. With regard to our studies in Pittsburgh, it is too early to formulate results; but I am quite sure that they will be found to be beneficial, Case making the strong statement that improving the vision and relieving eyestrain among the prisoners was followed not only by better work in the schoolrooms and workshops but also that the general demeanor of the men and boys was noticeably improved.

Dr. G. C. Johnston, Pittsburgh: One of the papers contained a discussion of miners', or dynamite, caps. I am familiar with cases of injury from them. Children get hold of them, and they explode; because they are charged with fulminate of mercury. The mass is small, but the velocity is enormous; and the fragments travel clear through the eye and into the orbit. I have seen them so small that you must examine them with a magnifying glass. I do not know whether it matters very much whether they are magnetic or not, because I have not seen many eyes saved by the removal of foreign bodies that pass through the ciliary body.

The question has been asked, Why are these shells made of copper? Because they are detonators. Why do we not abolish detonators? Because they explode dynamite powder. They must contain fulminate powder, because this is something that acts quickly. It is necessary to use powders that act quickly because they are safety powders. That is, they explode at once, the flame does not persist long enough to explode a mixture of gas and air or dry coal-dust. These safety powders are guaranteed only if used with a suitable detonator. You can buy caps for five cents a box, as I did when a boy, which will explode a shell, but the United States spends four dollars to explode such a shell, because a detonator explodes it all at once. Why are these caps made of copper? Because it is the most ductile metal except silver or platinum, which are both out of the question on account of their price. The caps must be made cheaply and quickly. They must be of uniform density and uniform ductility, and have a uniform cross section, because they must be used in places where there is moisture. If they do not go off, they must be drilled out at the risk of the miner's life. The fuse fits snugly into the cap. It is cut off at the proper length. The fuse is pushed down into the cap, and then the soft copper cap is crimped around with crimping forceps, although I have seen a man crimp it with his teeth. Then the cartridge is opened and the detonator is pushed down in a hole made in the dynamite. Then the man pulls the waxed paper up around the fuse and ties the whole snugly. Taking it by the end of the fuse, he drops it into the hole.

Another point is that if these caps were made of iron, you could not get them shipped. How would you ship them? If a box of them dropped they would explode. Iron will generate sparks by friction, but copper will not do this.

Dr. Reber: I agree with almost all the facts that Dr. Johnston has so lucidly stated, but there is no question that the most damaging foreign bodies that ever gain entrance to the eye are copper foreign bodies. They almost always mean immediate enucleation.

Dr. C. M. Harris, Johnstown: I should like to add a word about trachoma. I read a paper on that subject before this section, a couple of years ago. I might say that Dr. Franklin once remarked that he had written so much about it a few months previously that it was on his mind. It is on my mind now, because I see so much of it. I believe that it is on the increase in our community because we have so many foreigners, so that it propagates more freely than it would with the better class of natives. I find that a boarder in a certain house will come to me with trachoma. He comes once—only once, because I do not perform miracles. In a month or two, along comes some other member of the boarding-house, or, as happened recently, the boarding mistress, a foreign woman. Every once in a while, however, I see a native American with this disease. There is sometimes no explanation as to where the contagion comes from, probably from money or from contact with some object that these people have touched. Therefore, I am impressed with the idea that it is going to be much more prevalent than it has been or is now, largely on account of the careless way in which the disease is handled and the way in which these people handle themselves. I do not know how one could confine them long enough to eradicate it. They have not the intelligence to take care of themselves after they are discharged. I have recently been treating a boy ten years of age. It was not a glaring case, but the disease refused to be subdued by ordinary remedies. His father had had some eye disease in youth; and I looked at his lids, and found the typical cicatricial stage of trachoma. I suppose that the boy contracted it from his father, even though the disease in the father is quiescent, or cured, as he says. Therefore, we had better be suspicious of trachoma in all its stages, if it is contagious under these conditions.

Dr. John B. Turner, Philadelphia: The section is up against a hard problem, and I should say that there is a certain class of people who display what we can not call lack of intelligence, but an inborn tendency in their nature to take risks. Automobile riders are getting killed all over the country every day, and look at the aviators! I have told people to conserve their eyes, and they come back to me with them ruined. I remember a girl who was nursing some children with sore eyes in an institution. She was warned against getting pus into her eyes; but she said it would not hurt her, and deliberately took some of the pus and rubbed it into her eyes. Of course, she is blind. It is commendable for us to take up the subject, but there must be laws passed, with penalties attached, that will protect these people against themselves. We can reach the trouble only by legislation.

Dr. Lewis, closing: With regard to methods of teaching, I do not know whether some of you saw the remarkable exhibit at Atlantic City by the Cash Register Company of Dayton, Ohio, illustrating venereal diseases. It was a wonderful thing. It illustrated in a measure the feeling that a large number of employers have regarding their responsibility in safeguarding the welfare of their employees. There are ten thousand employees in this company. Lectures are regularly given them, to advise them as to health dangers and the methods of avoiding them. The company wrote to me, asking for special pictures that could be used in his illustrations on the prevention of blindness, and in relation to the prevention of accidents. I have no doubt that other employers, recognizing their liability financially, will institute measures to get their employees to use care.

Dr. Posey, closing: The task before us is stupendous. What shall we oculists assembled here, representing the medical profession in our state, do? How are we to meet this particular question? Tomorrow afternoon, at our business session, it would be well for us to devise some means of bringing this important subject of conservation of vision before the people of our state and to outline some plan of concerted action.

Dr. Corser, closing: It seems as though the last word had been said as to the idea of making these shells of iron instead of copper, but I do not yet see that it is impractical. The only argument used here was the fact that if they were to drop, the iron might cause a spark, while the copper would not. In that case a very thin plating of copper on the outside of the shell would prevent such an accident, thus avoiding that part of the reason why the shells should be made of iron.

I can not agree with the statement that nearly all eyes from which pieces of iron or steel have been removed are rendered sightless or are lost. A somewhat limited experience would make me believe the contrary is true if the ciliary body has not been injured. The fact remains that eyes have been lost and will be lost in the future simply because the metal used in the manufacture of these dynamite caps is of copper instead of a metal that can be attracted by a magnet.

Dr. Zentmayer, closing: I wish to say a word regarding what Dr. Ives has said about illumination in connection with asthenopia and eyestrain. It is true that bad illumination is important in the production of eyestrain. We find that even with the error of refraction carefully corrected we have asthenopia in the presence of improper illumination.

With regard to trachoma, I was surprised to hear from several of the speakers that it seems to be on the increase in this state. It is their impression that it is becoming more prevalent. Now statistics made at the Wills Eye Hospital by my assistant, Dr. Dewey, show that this is not the case in Philadelphia. In the fifteen years covered by these statistics, the percentage of trachoma in the reports had fallen from 9 per cent. to 0.9 per cent. That shows that it is much less common than it was formerly in Philadelphia. Then I am sure that we have noticed the rarity of plastic operation to cure defects caused by trachoma. We do not now do those that were common fifteen years ago at the Wills Eye Hospital. I believe that it is an error to exaggerate the prevalence of trachoma in the state.

Dr. Harris: We have a fresh crop of foreigners in Johnstown every year, from Southeastern Europe, and I feel convinced that some must have trachoma in an incipient stage. That accounts for the increase of trachoma there. These foreigners do not stay in Philadelphia.

Dr. Posey: Is it not unlikely that some of the cases that used to come to the Wills Eye Hospital now go directly to the Philadelphia Hospital? This would account for there being fewer cases contained in the later reports.

Dr. Reber: The trachomatous patients go to the Jefferson and the Pennsylvania Hospitals, near which most of the trachomatous population lives. A large part of their dispensary material is trachomatous.

If the Chair might be pardoned, in this matter of trachoma, I have knowledge of a case which illustrates the economic aspect. The disease began in 1890, in a young man in St. Louis, thirty-two or thirty-three years of age. He was in the employ of a railroad company, at a salary of eighteen hundred dollars a year. There was a roller towel in the office, and he contracted trachoma from its use. In spite of careful treatment, there was sufficient opacification of both corneas resulting to reduce his vision to the point that he was no longer of any value as a railroad man. At the time of infection, he was third assistant to the general freight agent of a large railroad. Within two years, he took a position with a chemical firm, in an out-door capacity, and now earns twelve hundred dollars. I have been assured by a gentleman who died three years ago, who was the general freight agent, that there was no question that this man would have succeeded him all the way through. If you figure the annual average loss for twenty years, without any increase in the salary, there has been lost ten thousand dollars to the family. If we figure his annual loss of income that he would have had, in all probability, the loss is thirty thousand dollars in that time.

MIDWIVES IN PENNSYLVANIA.

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(Read at the General Meeting of the Medical Society of the State of Pennsylvania, Scranton Session, September 25, 1912.)

The practice of midwifery in Pennsylvania is as old as the commonwealth. The wives of the earliest settlers in Penn's domain received assistance in childbirth from the handy women locating in the early settlements. Pennsylvania's earliest people brought with them the customs of Europe and among them were the firmly fixed habits of having women attend women when children were about to be born. In the early days this practice was absolutely necessary, as doctors were found only in the large settlements and they were entirely above the practice of midwifery, except in complicated cases.

Probably the best midwives in the early history of the commonwealth came with the German settlers. English and Irish women, helpful in the lying-in room, accompanied many settlers from the British Isles and it is well known that Swedish women in the colonies on the Delaware assisted their neighbors in the supreme moments of motherhood. Little is known of this practice among the early French settlers in the western part of the state, but as the colony grew and as immigration increased from different sections of Europe, an occasional physician joined the colonists. With the establishment of our medical schools, however, the physician began to take over the work of the midwife along with his general practice of medicine and for a good many years subsequent to the Revolution very few women of experience in this line came to Pennsylvania. With the development of the great industrial centers and the great mining and manufacturing interests of the state, foreigners from different walks of life, largely laborers and skilled workmen, began coming in enormous numbers bringing with them women with considerable experience in the practice of midwifery. Our British immigrants nowadays rarely bring midwives with them, but it is extremely common for the German, the Hungarian, the Italian, the Slavish and the Polish immigrants to bring with them a considerable number of persons who pose as midwives. Few of these women, however, have had proper bedside training. Some of the younger women coming in recent years from Italy and Germany, however, have had a fair hospital training and have acquired a reasonably complete knowledge of the processes of labor, but only a small proportion of them seem to have been drilled in the modern aseptic technic of the lying-in chamber.

If we had to deal only with this small number of trained midwives coming into Pennsylvania, the problem would be simple and little provision would need to be made for their supervision. Unfortunately a large number of those who come to America posing as having had experience in midwifery are entirely uneducated, are unfamiliar with the physiological processes of labor, know nothing of aseptic technic and are themselves dirty in their habits of living and dirty in person.

In many communities in the state, native born women, usually the first or second generation from European parents, take up the practice of midwifery without any special training or supervised experience. In Pennsylvania, to-day, the Department of Health has a record of 673 midwives who are more or less actively engaged in practice and it is safe to estimate that several times this number, whose names are not a matter of record, are engaged in this sort of practice.

Until within recent years, no attempt whatever was made in even the large cities to establish requirements for the practice of midwifery. Indeed it is only within recent years that any attempt has been made to establish satisfactory requirements for the practice of medicine in this commonwealth, and within the memory of most of the members of this society the medical men engaged in practice in this state were most inefficiently trained for obstetric work.

It is not surprising then that Pennsylvania should be slow to take up the supervision of midwives, when we have hardly more than started to train physicians thoroughly in midwifery. Some of you may feel that this statement is not justified by facts and yet when Prof. Whitridge Williams sent his *questionaire* to the professors of obstetrics in one hundred and twenty medical schools in this country in 1911, their replies developed a disheartening series of answers concerning facilities in our leading medical schools for teaching a thorough and practical working knowledge of obstetrics. Dr. Williams admitted that in his own school, the Johns Hopkins, facilities for practical work were woefully inadequate; and in answer to the question, "Do you consider that the ordinary graduate from your school is competent to practice obstetrics?" he says, "I would unhesitatingly state that my own students are absolutely unfit upon graduation to practice obstetrics in its broad sense, and are scarcely prepared to handle the ordinary normal cases." The general conclusions made from answers received by Williams from forty-three schools, one half of them being from the acceptable schools of medicine and one fifth from the nonacceptable schools, are as follows:—

1. Generally speaking, the schools are inadequately equipped for teaching obstetrics properly, only one having an ideal clinic.
2. Many of the professors are poorly prepared for their duties and have little conception of the obligations of a professorship. Some admit that they are not competent to perform the major obstetrical operations and consequently can be expected to do little more than trained man-midwives.
3. Many of them admit that their students are not prepared to practice obstetrics upon graduation, nor do they learn to do so later.
4. One half of the answers state that ordinary practitioners lose as many women from puerperal infection as do midwives; and over three fourths, that more deaths occur each year from operations improperly performed by practitioners than from infection in the hands of midwives.
5. Reform is urgently needed, and can be accomplished more speedily by radical improvement of medical education than by attempting the almost impossible task of improving midwives.

Another American physician, the nestor of medicine in the western world, Abraham Jacobi, in his presidential address before the American Medical Association in Atlantic City, gave to the profession some stinging truths and mighty unpleasant facts. He pointed out that "fifty per cent. of all the births in the United States are attended by nonmedical women—in

New York, forty-two; Buffalo, fifty; St. Louis, seventy-five; Chicago, eighty-six;'' and at another place in this address he points out: ''The results of midwife practice do not always compare unfavorably with those of our professional brethren; of 116 cases of ophthalmia neonatorum which were treated in the Massachusetts Eye and Ear Infirmary in one year, 114 were in infants attended by physicians and two by midwives. Of thirty-three cases treated in the New York Eye and Ear Infirmary in one winter, twenty-two occurred in the practice of physicians and eleven in that of midwives. Of the eleven midwives, three had used nitrate of silver; of the twenty-two doctors, only one.'' ''In a period of years, 1905-10, the City of Manchester, England, has the following to say about puerperal fever, and recoveries and deaths following them, in the practice of midwives and doctors. In the practice of midwives there were 219 cases of puerperal fever with forty-one deaths; in the practice of doctors, 275 with eighty deaths; in the cases attended by midwives and doctor, 100, with twenty-six deaths.''

Fortunately, Pennsylvania's medical schools have for years led schools of other states in preparing physicians for the practice of obstetrics and have led in giving practical bedside instructions in obstetrics to their graduates, and what is still more fortunate for the future is that the Bureau of Medical Education and Licensure has now established a fixed requirement, making it necessary for every applicant for a license to practice medicine to show that he has personally conducted, under supervision, six cases of labor. For the future practice of midwifery by physicians applying for license we may not have serious misgivings. Low as is this requirement, it is a vast improvement over no requirement in the past, and I think most of us will agree that we ought to look forward to making the requirement of twenty cases of labor, as is now done by the Conjoint Examination Board of the Royal College of Physicians of London and the Royal College of Surgeons of England.

We have the midwife with us in Pennsylvania and in all likelihood she is here to stay. The Legislature of the commonwealth in 1911 passed what in some respects was an admirable law for the control of midwifery, provision being made for requiring a license from the Medical Council as a perquisite for the practice of obstetrics except with certain individuals who may have been in practice for a period of ten years and provided for the revoking of such license when certain unprofessional conduct might be proved. Unfortunately, the law was so worded that it became inoperative and lapsed with the passing out of existence of the old Medical Council.

During the interval between the time the act was printed and placed in circulation and the time it became inoperative at the end of 1911, the Medical Council provided for an examination of midwives who sought to practice in the state and it may be of some interest to know what questions were propounded and how well these women seemed to be equipped for work.

The examination questions placed in the hands of midwives in the various centers of population where examinations were held in the Department of Health's tuberculosis dispensaries were as follows:—

EXAMINATION OF MIDWIVES.

Questions asked in 1911.

1. How would you prepare yourself to make a vaginal examination of a case of labor? (10 credits.)
2. How would you prepare the patient? (10 credits.)
3. What is the normal presentation of the child? (5 credits.)
4. What is a dry labor, and what are its dangers? (6 credits.)
5. What may hemorrhage before delivery indicate and what would you do when it occurs? (6 credits.)
6. What would you consider dangerous symptoms in a pregnant woman? (8 credits.)

7. What conditions would you consider dangerous to a mother during labor? (10 credits.)

8. What would you consider dangerous symptoms in a mother following labor? (10 credits.)

9. What would you consider dangerous symptoms in a newborn child? (8 credits.)

10. What is the normal temperature of the body? (4 credits.)

11. How would you care for the eyes of the newborn child? (10 credits.)

12. Describe the contents of your obstetrical bag and state for what purpose each article is used. (8 credits.)

13. What would you do in the event of a child being stillborn? (3 credits.)

14. Fill out a certificate of birth from the following information. Mrs. Mary Jones, aged 25 years, living at 330 Pine St., Hazleton, Luzerne County, gave birth to her third child, a boy, on the 25th of September at 8 A.M. Mrs. Jones, whose maiden name was Mary Free, has borne one other child which is living. William Jones, the father, aged 28, is employed as Fireman on the P. R. R. Both parents were born in Hazleton. The child has been named William. (2 credits.)

Answers by A. W., Fayette County:—

1. Washed hands with warm water, roll up sleeve, grease hands.

2. Put to bed, make everything loose.

3. Head coming first.

4. No water comes. Baby dry makes long labor.

5. Dangerous. Put her to bed. Keep quiet.

6. Convulsions.

7. Hemorrhage, when she's cold.

8. Pain, fever, cold.

9. Color., Short breath. Heart bad, no pulse.

10. Don't know.

11. Wash eyes. Dry, and examine.

12. Scissors, cord, soap, etc.

13. Rub them, shake up and down. Put in tepid water.

Answers by M. McH., Scranton:—

1. Washing hands, in disinfected water.

2. Have her ready for her bed and then examine her.

3. Head first.

4. No water, hemorrhage.

5. Dry birth, would call doctor.

6. Weakness.

7. Wrong presentation.

8. Weakness. Hemorrhage.

9. If it didn't holler and cry.

10. 95.

11. One half teaspoonful of boric acid in one half glass of water and wash baby's eyes.

12. One bottle ergot, one half teaspoonful so she wont flow so much after childbirth. That is all I have beside Borac acid.

13. Not answered.

14. The birth certificate was filled in a fairly intelligent way.

Answers by M. L., Wilkes-Barre:—

1. by pleasing her in bed and then washing My hands Clear in bowling warter making with Carbolic aic and then taking a little lard and making a examtian to find if the head of the Child is Downward.

2. Not answered.

3. The head Downing.

4. the wasting of water and lingering her labor.

5. sent for a Dr.

6. the flood of blood.

7. if the Child is not turn head Downward.

8. the Chill of flow of blood.

9. the Chill or by smoothring by the wast from its Mother.

10. 70 D.

11. Washing Clear in Bowling water. Next with Boric aic every day.

12. Carbaloic and Broice ice.

13. sent for Corner.

14. Imperfectly filled certificate.

The above answers are by no means the worst received. They represent about the average set of answers in those failing to pass the examination.

One hundred and five women midwives and one man midwife took this examination. Out of this number thirty-five passed with a grade of sixty points out of possible one hundred. The valuation given each question in grading is set forth following the question. Seventy-one women taking the examination failed to reach the passing grade, the total value given the answers of those failing ranging all the way from zero up to somewhere in the fifties. Out of the total number taking this examination, an official translator placed the questions in German eight times, in Bohemian five, in Polish and Slavish thirty-two, and in Italian thirty-three times. These answers had to be translated back into English in order that they might be graded. Some of the women taking the examinations employed young girls to whom they gave the answers in their native tongue and by whom the answers were translated and written in English.

In addition to the thirty-five passing the examination, all of whom were granted licenses, twenty-eight were granted licenses on the presentation of diplomas showing that they had completed satisfactory courses in European schools or hospitals training women with a considerable degree of thoroughness for the practice of midwifery.

Such then are the figures and results obtained up to the end of the year 1911. The law providing for licensure has lapsed. The new Bureau of Medical Education and Licensure has been given an opinion by the Attorney General that would imply that the Bureau of Medical Education and Licensure has the right to regulate the practice of midwifery and by resolution the Bureau has decided to treat the practice of midwifery as a minor branch of medicine.

The details for licensing midwives, regulating their practice, and the fixing of requirements for practice, etc., have not been worked out, and according to recent information received from the Bureau of Medical Education and Licensure, nothing will be done until after the next session of the Legislature. It seems altogether probable that the legislators may enact a law covering this question in a comprehensive way.

It might be of interest in this discussion, however, to consider what the state should demand on the part of those who ask for the privilege of practicing midwifery. In this connection, permit me again to quote Dr. Jacobi in his presidential address, where he says, "In my opinion, she must have as moral a character as you expect in a male or female student of medicine or man generally—and, for that matter, of any American outside a penitentiary; a good common school education without Latin and Greek; a fair health so as to endure the hard work she means to undergo in future; a reputation for love of work and conscientiousness; and such knowledge of popular physiology and anatomy as the program of our future midwifery schools will designate." "She must have learned to distinguish the position of the fetus, and know when to call a doctor; how to do, in his absence, a version in cases of emergency; how to attend the eyes; hemorrhages depending on incomplete uterine contraction or from injuries—one of which is tearing off of the placenta—and how to recognize eclampsia, inversion of the uterus, the presence of a mechanical obstacle like fibroma or a contracted pelvis. She must know how to deal with asphyxia. More than anything, she must have been taught to appreciate two things; first, how to keep absolutely clean—that means to disinfect herself and her hands; second—and therein lies a secret of success—not to leave the woman. That is more than you or I do, or usually did." You will agree with me that she must by all means know enough English to return to the proper authorities intelligent certificates of birth. She must be made to feel her responsibility to her patient and to the public and know that her license may be revoked for good and sufficient cause.

In considering the midwifery question physicians should be fair and just and not insist upon requirements for midwives being higher than their own proficiency. Midwives need regulation, so do physicians; one thing, however, must be avoided in establishing these regulations, that is the placing of barriers so high that poor pregnant women will not be able to secure even the poor assistance of midwives not yet well trained for obstetric practice; and no interpretation of regulations should ever be allowed, and no legal requirements should ever be adopted that would frighten a neighbor away from assisting any woman in an emergency childbirth.

DISCUSSION.

Dr. A. J. Winebrake, Scranton: Dr. Royer's paper is interesting, and the subject should have more discussion. Midwives, as midwives, are better in obstetrics than physicians. There is no question about that. Their fingers are clean; they are not sticking them into abscess cavities, and then into vaginas. This was recognized by Oliver Wendell Holmes. It was the comparison between the work done by midwives in Vienna and that done by physicians that caused Semmelweis to advocate antiseptic precautions. If we are to have an act passed at Harrisburg requiring midwives to take an examination, this law should be enforced, but the women who should be blamed to-day are those going around and taking care of cases for what whisky they can get or a few dollars a week, and should be classed as scrub women and not as midwives. Simpson of Edinburgh tells us that before the days of chloroform and antiseptic surgery, the mortality was much lower than it is now. This is explained by the fact that to-day the physician is so busy. He should not do obstetric work, if he is. It is easy to give chloroform and apply forceps in a perfectly normal case, and not give time for nature to act. We should have a law passed that the mothers or fathers and not physicians shall be compelled to report births, as through the Continent; the mother and father are the only people that can give a proper and correct report. How do I know, if a woman tells me that her child is legitimate, that it is not? These people can lie. It is to their interest to do so. If they would take the money that the state has recently spent in sending detectives to prosecute physicians who fail to report births, humiliating them by associating them with other criminals, and pay the doctors for reporting these births, it would be a good thing. We now have to give the state our time and a two-cent stamp, or pay ten cents to go and get a stamped envelope, whenever we report a birth. Why should we give our services for nothing? We can not practice until we show that we are qualified. If the state wants statistics, let it pay for them. If it is a benefit to the parent to have these records made, because it is a benefit to the child to be able to show the certificate in future years, let the parents report the births. If the insurance commissioner wants a report, the insurance people pay the fire chief fifty cents for every report of a fire. We should have an act passed to compel the mothers and fathers to report the births, and relieve physicians from that burden.

RESTORING MOBILITY AFTER BONY ANKYLOSIS OF THE JOINTS.

BY R. TUNSTALL TAYLOR, M.D.,
Baltimore, Md.

(Read by invitation in the Section on Surgery of the Medical Society of the State of Pennsylvania, Scranton Session, September 25, 1912.)

This paper is a continuation of some preliminary work reported before the Clinical Congress of Surgeons of North America, at Philadelphia, in 1911,[1] which the writer has done in the Kernan Hospital for Crippled Children, St. Agnes' Hospital and the University Hospital at Baltimore since June, 1911, and the final conclusion as to its value should be withheld until more time has elapsed and there are at hand more reports of other surgeons who have used the method. Suffice it to say that the results so far attained afford ample encouragement to continue the study, to modify and improve the technic and to extend the investigation.

Joints made stiff by inflammation and the formation of intraärticular bridges of bone growing between the components or by periarticular collars, locking motion, are so numerous and form such common causes that one with the opportunity is stimulated to endeavor to find a solution of the problem, which most often by methods hitherto employed by our predecessors have proved valueless or even detrimental or fallen short of the benefit hoped for. Medical literature upon this subject is vast and voluminous and investigations numerous, such writings dating from the beginning of the last century. I will, therefore, simply mention the leaders or originators in the different methods which lead up to our modern conception of the subject.

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[1] *Surgery, Gynecology and Obstetrics*, Apr., 1912, pp. 327-337.

Naturally in our research one finds many cases reported in which surgeons have endeavored to give relief for ankylosis of the jaw, which interfered materially with nutrition, or at least deprived the sufferer of the power to masticate solid food with the attendant absence of stimulation afforded thereby to the digestive function, aside from gustatory pleasures. Those whose lower limbs were ankylosed in flexion or adduction and those whose upper extremities were stiffened in extension so that the hand could not reach the face, head or pocket, most often begged for alleviation.

Louvier of Paris and Langenbeck of Hanover have their names associated with originating the procedure known as *brisement forcé* or the forcible breaking up of the adhesions in joints, or, as they termed it, the *redressement* of the joint. This method used by them and their followers, even when oft repeated, resulted in the reformation of bony adhesions sooner or later leaving the patient often in a worse condition than before, except in those mild cases where the stiffness was due solely to a synovial agglutination. Next we find the name of Rhea Barton of Philadelphia, who, in 1826, sawed through the femoral neck for the relief of this condition; he was followed by Rogers, in 1830, removing a disk; Sayre, in 1869, of a "roof-shaped" piece from the same region; and Berard, in 1838, of a disk from the inferior maxilla, without ultimate success. Many others, including Diffenbach, Esmarch, Schuh and Rizzoli, tried it and failed.

This procedure was followed by J. M. Carnochan of New York, in 1840, interposing bits of wood or cotton between the cut ends of bones to prevent readhesion, and these naturally sloughed out, as did the nonabsorbable substances, celluloid, zinc, rubber, silver, cambric and collodion, and the absorbable magnesium, ivory and bone chips used by Chlumsky in 1902.

Verneuil, in 1860, acting upon the hypothesis that ofttimes we see non-union between bone fragments following traumatic fracture from muscular or fascial interposition or misplacement and a pseudoarthrosis resulting, successfully interposed, with a nutritive pedicle, muscle and fascia after arthrotomy for an ankylosed jaw. His most enthusiastic followers have been Albert Hoffa, of honored memory, and John B. Murphy of Chicago, who has written much of late in the *Journal of the American Medical Association* concerning this and gotten at times brilliant results.

We next come to Föderl, who in 1903 used as an interposing substance animal membrane, bladder or the walls of ovarian cysts, heterogeneous materials, which frequently caused suppuration, fever and ultimate extrusion with sinus formation and reankylosing of the joint. Baer, in 1909, reported similarly the use of chromicized pig's bladder and Cargile membrane with good results.

Finally, we find Thorn recently reporting the use of detached autogenous or homogeneous membrane. He dissected out flaps from the fascia lata of the patient to serve as the interposing substance to go in the new-formed articulation.

Thus we can classify the methods mentioned with my own, which is to be described, into six groups: viz., (1) brisement forcé; (2) interposition of foreign nonabsorbable substances; (3) muscle and fascial flap with nutritive pedicle; (4) heterogeneous fascia or membrane; (5) autogenous or homogeneous fascia or membrane without nutritive pedicle; (6) absorbable animal substances.

Groups 1 and 2 can be dismissed as obsolete. Groups 3 and 4 I can speak of only from my own experience and that of my orthopedic and surgical colleagues as only partially satisfying on account of the length of the operation and the pain following, fever, suppuration, sloughing, sinus formation and the reformation of adhesions in some cases. Groups 5 and 6 are still under advisement and time and number of cases will best show us what to expect.

Cases of ankylosis, like cases of other affections, vary much, so that a prognosis for mobility after operation must depend on the joint involved, the degree and nature of the involvement, the causative condition or disease and changes in adjacent parts. Atrophy, osteoporosis, deformed articular ends, thickening of capsules, shortening of ligaments, tendons, muscles, etc., influence materially the results in a given case.

It is needless to say acute cases or active chronic cases should not be touched or even considered for stereo-arthrolysis.

Ten months ago the writer began laboratory and animal experimentation to determine a liquid, absorbable, animal substance that could be sterilized, injected by syringe between the denuded ends of the bones entering into the proposed new-made, opened articulation and that would immediately solidify in such manner as to prevent contact for some six or eight weeks before absorption.

The idea was that this liquid would fill every nook and cranny of the eroded portion of the joint and then solidify. This liquid was to be, on injection, at a temperature that would not scald and the congealed substance was not to be absorbed before the denuded bone ends healed. Various fatty, waxy and gelatinous substances were experimented with in regard to melting point and congealing point, and the rapidity of absorption was determined by injecting various mixtures and proportions subcutaneously into rabbits.

To make a long story short, yellow wax, 1 part, and lanolin, 2 to 6 parts, were the chief substances and proportions determined on, after careful study, melting at about 120° to 135° F.

Operation 1. The first operation—under ether anesthesia—was upon a rabbit's elbow. Cartilage and synovial membrane were removed and the bones approximated by splint, so that under ordinary circumstances ankylosis would ensue, but the wax mixture was interposed and at the end of six weeks the animal had good motion and functional use of the joint.

Operations 2 and 3. These operations were undertaken upon ankylosed knees of B. L., a girl, age 9, with active rheumatoid arthritis, although this acute condition could not be fully appreciated until the joints were opened and the extreme degree of the osteoporosis recognized. Reshaping the articular ends was easily done, owing to the still active chronic process; at the end of three weeks the patella was free and there were from 40° to 50° of motion in flexion, whereas, at the time of the operation, there was none between the femur and tibia, and a true bony ankylosis with the patella existed. The continued activity of the disease caused a rethickening of the periarticular structures subsequently with loss in the gain made by the operation and the case is cited as a caution against attempts to restore mobility in any joint that has not been long quiescent.

Operation 4. R. M., girl, aged seventeen, had tuberculous ankylosis of the right knee. Father died of pulmonary tuberculosis. History otherwise was negative. Patient first had knee trouble twelve years ago and it has been ankylosed in full extension for nine years. Arthrotomy was done and 5 cm. removed from dense eburnated ankylosed tibia and femur. Yellow wax, lanolin and cocoa butter were used. Eleven months after operation the result is 60° flexion and movable patella, which previously was firmly ossified to femur. Motion is increasing.

Operation 5. H. H. H., man, aged thirty-five, had traumatic bony ankylosis of right hip of eleven years' duration. In full extension and 20° adduction, there was an apparent shortening of 4 cm. Arthrolysis, anterior incision, was done, and wax and lanolin used. Result: Voluntary flexion 75°; abduction 45°; adduction 30°; outward rotation 45°; inward rotation 45°. There were no adhesions three months after operation, and no shortening.

Operation 6. M. E., girl, age fourteen, had tubercular ankylosis of left hip in position of 30° flexion and 20° adduction, with 12 cm. practical shortening, and no motion. Arthrolysis, posterolateral incision, was done and wax and lanolin used. Result five months after operation: Right leg, 84 cm.; left leg 83 cm.; motion and voluntary flexion 45°; rotation in and out 25°; no adhesions. Motion is increasing under massage, active and passive exercises.

Operation 7. E. W., boy, aged six, had firm bony tubercular ankylosis of hip at 90° with body, with no motion. It was of three years' duration. Arthrolysis, posterolateral incision, was done, and wax and lanolin used. Boy is still under treatment.

Operation 8. W. K., man, aged nineteen, had tubercular bony ankylosis of right knee in full extension, of ten years' duration. There was no motion in joint or mobility of patella. Arthrolysis was done, and wax and lanolin used. Result: Voluntary flexion 20° three months after operation; patella free; no adhesions. Patient is still under treatment.

Operation 9. M. K., girl, aged eighteen, had tubercular ankylosis of right hip, of eight years' duration.

On admission, position of flexion in right leg was 60°; length of right leg, 29.5 inches; left leg, 31 inches. Length from umbilicus, right leg, was 32 inches; left leg, 34.75 inches; distance between anterior superior spines, 9 inches. Right leg was apparently adducted 30°. Right trochanter was 1.5 inches above Nélaton's line. The patient was prepared for operation by the iodin method, being shaved the night before, and painted with iodin the morning of operation, the solution used being 2½ per cent. iodin in benzin. After being put on the operating table the patient was painted again, this time was 2½ per cent. iodin in alcohol.

An incision was made about 4 cm. posterior to the anterior superior spine, extending in a curve down the thigh, convex posteriorly, for a distance of about 15 cm. and extending through the adipose tissue to the gluteal muscles. A posterior incision was made from the mid point of the lateral incision, extending downward and backward about 5 cm., exposing the gluteal muscles. The fibers of the gluteus maximus and medius were separated, exposing the great trochanter. The top of this bone was chiseled off, exposing the neck of the femur. About one fourth of the head of the femur was resected, removing with a curet a considerable amount of osteoporotic bone. After this the acetabulum was smoothed with a curet. This allowed free motion of the ankylosed joint in all directions. The cavity was swabbed out dry and a mixture of paste, containing lanolin, 3 parts, and beeswax, 1 part, was injected. The capsule was closed with silk sutures. The great trochanter was fastened in place with silver wire and the incision closed with silver wire. A silver foil dressing was applied and the patient returned from the operating room in good condition.

Four months after, position of flexion was 0°; position adduction, 10°; motion, 60° in flexion.

Research in recent years, aided by asepsis, in conjunction with the *x*-ray, the employment of innocuous absorbable substances within stiff joints, has conferred upon arthroplasty a new hope and boon to the very large number of those afflicted with stiff joints from tuberculosis, gonorrhea, osteoarthritis, rheumatoid arthritis, trauma, infections, etc.

Caution should be observed in not operating upon an ankylosis due to an infectious arthritis until all inflammation has ceased and the joint has been quiescent a year or more. In the use of wax mixtures great care should be used in sterilizing in the autoclave at fifteen pounds pressure for thirty minutes, two days in succession, before introduction into the newly formed joint.

The employment of an excessive amount of wax in the articulation is also a mistake, as it is likely to cause such intraärticular pressure that the sutures may open, and only sufficient to separate and coat over the eroded bone areas should be introduced. Traction by Buck's extension may be employed on the lower extremities after the first week in plaster of Paris to increase, as far as possible, the intraarticular spaces. One must bear in mind that joints long unused and ankylosed become flat, not rounded, so that if we can prevent the reformation of ankylosis and adhesion, we can count upon use and functionating, according to Wolff's law, to reproduce a rounded articular surface with progressively increasing range of motion with the improved muscular power, which we at the time of the operation could only do imperfectly. This, however, does not mean that we should simply make a linear osteotomy between the component bones, but each should be fashioned concave or convex as nearly as possible like the normal articulation. This can be done by chisels and gouges of proper width and by special articular curets or draw knives such as the writer's.

For the acetabulum and femoral head, special burrs should be employed, the former being only a trifle larger than the latter to allow for the interposing substance. The jig-saw can be used only when articular ligaments can be avoided, as one must prevent flail joints. The more perfectly the joint is fashioned, the greater the liability to a good range of motion. All ligaments and as much capsule, synovial membrane, bone and cartilage as is possible are to be preserved.

A thin wax mixture, say yellow wax 1 part and lanolin 6 parts, is perhaps better than a thick firm one which takes longer to be absorbed and may be extruded. In some instances it is better to leave the cast on a month.

The advantages of his method, the writer claims, are, primarily, the prevention of the reformation of bony adhesions in properly done cases; the absence of pain, none of the above requiring any anodyne; the speedy, voluntary ability to move the joint as compared with other methods; the absence of fever and suppuration; the hemostatic effect of the wax prevents the formation of hematomata and ecchymoses; and the rapidity with which the operation can be done, compared with other methods.

DISCUSSION.

Dr. James K. Young, Philadelphia: I have been very much impressed with this paper and I think we should all congratulate ourselves on the opportunity to hear it at first hand from Dr. Taylor. Certain points have been brought out by this paper which I think should be impressed upon the audience. The first one is that the cases should not be operated upon during the acute or during an active stage. This has been my experience in regard to operations upon the joint for ankylosis. There is no doubt, particularly in the gonorrheal cases when the inflammation has completely subsided (and this is a year or year and half after the acute stage), there is a period of quiescence, when almost any operation will be followed by success. At this time the joint has lost its acute character and the operations which have been most successful, in my experience, as well as those in the hands of other surgeons of experience, have been of this type. Another fact which has been brought out is that this method is simpler than the other method, that it causes less pain; in every way I think it is the best method that has yet been proposed. There is one point which I wish to refer to and that is that certain joints should be allowed to ankylose. There are certain pathological conditions of the joints, particularly arthritis deformans, where inflammation has been going on for a long time, where the cartilage has been destroyed; in these cases it is far better to allow the joints to become completely ankylosed and not to attempt to restore the mobility. There is another thought suggested by the paper and that is that there should be a new classification of the disease founded upon the bacteriology and upon x-ray diagnosis. The division of this subject into ankylosis of false and true types, whether it is fibrous or bony, will no longer hold. We have passed too far along to have a classification of this character. The bacteriology of these joints, the x-ray diagnosis, reveals the fact that we have a great many kinds of infections. There are two groups which should be distinguished, those due to the micrococcus, as staphylococcus, and those due to the diplococcus, as gonococcus and pneumococcus. The tubercular cases, in my experience, on account of the great amount of bony destruction give less satisfactory results than the gonorrheal cases. In some of the tubercular cases it is better to secure ankylosis. I think the method of Dr. Taylor is the best that has been proposed.

Dr. J. T. Rugh, Philadelphia: I feel that a paper of this type merits discussion as far as it can be given, especially by any one who has had experience with it. I confess to having had no experience with this method of operation, but the mechanics of the operation appeal to me most strongly. An operation which carries with it the simplicity of the present operation is one which recommends itself most highly to the orthopedic mind and I know as well to the surgical mind. I think Dr. Taylor in his work is undoubtedly nearer to the solution of ankylosis, or restoring function in these ankylosed joints, than has ever been reached by any surgeon up to the present time. The previous attempts, as shown in his paper, always have grave elements of danger and of failure, are very frequently followed by failure and the constitutional disturbances which are very likely to result from the introduction of such foreign substances as the pig's bladder, as well as the suppuration and the sloughing which may take place, constitute deterrent obstacles to the performance of these operations. This by its simplicity recommends itself most strongly.

Dr. John B. Roberts, Philadelphia: Will Dr. Taylor, when he closes the debate perhaps, give us some information of his experience in regard to using fascial flaps? If I understood him his experiments and clinical results are rather recent. If he or any other member has had any experience with flaps it would be useful to know whether in operations with animal materials, such as lanolin and wax, the joints are cured and stay cured as well as do the cases in which a flap of fibrous or fatty tissue is introduced into the joint. If his simpler method is as permanent, it seems to me that we have reached a very desirable consummation.

Dr. Taylor, closing: Dr. Young has brought up the point that was emphasized by Dr. Lorenz in a recent paper in the *New York Medical Journal.* Dr. Lorenz criticizes and disapproves of attempts at restoring motility and he does not advocate the production of arthrodesis. In other words, Dr. Lorenz thinks best to leave the patient alone. But there are certain patients who come to us with an extended ankylosed elbow; the hand is virtually useless for brushing the hair, feeding themselves, etc. Those patients ask us to help them and I think it is our duty to do so. Similarly we have children brought to us who have had tuberculosis of the hip and the disease has resulted in abducted and flexed thighs and they want to be able to walk without their crutches. We must try to help them. So we must help patients with badly flexed knees. I think tubercular cases when healed yield more rapidly to restoration of mobility than the gonorrheal cases.

Dr. Roberts asks for my experience in regard to fascia, the use of muscle, animal membranes, etc. In regard to what we are accustomed to know as the Murphy operation, there is, of course, violence done to neighboring structures and it is more or less of an extensive operation and results in a great deal of pain to the patient in the after treatment. You can not get these patients to move the joint voluntarily within a week of the operation as you can by the method I have suggested. We use no passive motion in our cases. We make the patient do all of the moving. That is the thing that we are after in the end results, for the patients to be able to move the point themselves, not to have masseurs do it for them. We want something that does not produce pain. It undoubtedly does produce pain, the introduction of the fascia and muscle flap. In addition to that my experience has been unfortunate. I suppose my technic has been bad or incorrect and that of some of my colleagues in Baltimore, but ankylosis has recurred after this. Then I have had only one case in which I used the fascia lata without pedicle in a case of gonorrheal arthritis of the knee, with complete bony ankylosis of the patella and femur and of the femur and tibia. Owing to the urging of an assistant about a year ago I tried a large piece of fascia lata some five by six inches, which we dissected out and apposed all the internal surface of the fascia lata to the eroded surface of the opposing bone. In this case complete ankylosis recurred. So I am not very enthusiastic about that method. My experience and that of my colleagues with animal membrane is that it sloughed out and ankylosis recurred. In regard to paraffin, paraffin is nonabsorbable. We want to use an absorbable substance; vaselin, other waxes, spermaceti and gelatin presented objections. All of these we experimented with and tried and these various substances used and experimented with were reported to *Surgery, Gynecology and Obstetrics*, April, 1912, the first article that I wrote on this subject. Again, I want to thank this society for its courtesy in asking me to come and present this subject to you, and to give special thanks to your president and secretary for their kindness.

It is extremely desirable to conduct a systematic and cleanly dissection when seeking a foreign body.—*American Journal of Surgery.*

SURGICAL TREATMENT OF COMPLETE PROLAPSE OF THE UTERUS.

BY RICHARD C. NORRIS, M.D.,
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(Read in the Section on Surgery of the Medical Society of the State of Pennsylvania, Scranton Session, September 25, 1912.)

The title of my paper excludes discussion of the lesser degrees of prolapse of the uterus, characterized by retroversion with some descensus of the uterine body, associated with cystocele and relaxation of the pelvic floor. For this class of cases curetage, trachelorrhaphy, separation of the bladder from the cervix and stitching its base to the uterus at a proper level, a well executed Emmett's operation on the pelvic floor followed by one of the operations to shorten the round ligaments in order to maintain the uterus in an anterior position, will always give satisfactory results. I wish to make it plain that the subject for your discussion is complete prolapse, or hernia of the pelvic viscera through the vulva, due to extreme relaxation or destruction of the supports of those viscera.

There has recently been much discussion of the supports of the pelvic organs, and opinions seem to vary as to the relative importance of "supports from below," "suspension from above," "intraabdominal pressure" and its "deflecting planes." To appreciate properly the surgical problems presented by our subject one must take the middle ground and realize that all of these factors, in varying degrees, are involved in producing and permitting prolapse of the uterus, and each individual case must be studied to determine which factors in the case require especial surgical attention. My obstetric experience has taught me that, in all cases in multiparous women, the injury contributing most to the disturbed anatomy, to the patient's discomfort and to the correction of which our surgery must be applied, is the downward stretching of the lower uterine segment and cervix at repeated labors. How frequently we see, immediately after labor, and especially after difficult and too early applied forceps, the cervix, the bases of the bladder and of the broad ligaments, and the anterior vaginal wall actually protruding at the vulva. It is to be expected that in some women, this subinvoluted, relaxed, elongated segment of the pelvic viscera finally becomes a hernia,—first through the pelvic inlet, because the supports at this plane are destroyed and finally through the pelvic outlet because the supports here are also weakened or destroyed. Bear in mind that the word "support" in this connection means more than weight carrying. It means suspension, it means an anterior position of the uterus and correct anatomical relation of the fascial planes in the pelvis to properly distribute the intraabdominal pressure. The surgical necessity is thus divided into two important problems—the restoration of these two supporting and guiding planes, the one at the pelvic inlet, the other at the outlet.

If restoration is impossible then mechanical ingenuity must substitute measures to replace nature and our surgery must relinquish attempts to reproduce normal conditions because such reproduction in some cases is absolutely impossible. The upper plane, which offers support, suspension and proper guidance of intraabdominal pressure, comprises all the fascial or connective tissue sheaths adjacent to the cervix, in the bases of the broad ligaments, in the vesicouterine ligament and lateral vaginal plates, and in the uterosacral ligaments. These supports are potentially reinforced by the anterior position of the uterus and by their proper distribution of intraabdominal pressure;

that is to say, when the intraabdominal force is properly distributed through and upon a normally situated uterus, there is no strain upon the normal supports at the pelvic inlet.

Intact levator ani muscles and fascia are conceded to be the important supports of the pelvic viscera at the outlet of the pelvis. No one has disproved that fact since Emmett first emphasized it. The contraction of this muscle resists and properly deflects intraabdominal pressure, thus helping to maintain the pelvic viscera at their normal level, in addition to offering an actual base of support.

An extreme case of prolapse is a veritable hernia and the proper surgery is really a radical cure of hernia. The surgical principle of muscle and fascia interposition and suture is just as correct here as it is in the radical cure of inguinal hernia. Unfortunately, in many long-standing cases the levator muscles are so atrophied from nonuse following extensive laceration that we are compelled to rely on interposition of remnants of fascia. In such cases the vaginal work on the pelvic floor is not so efficient and the abdominal and vaginal work on the upper plane at the pelvic inlet must be relied upon to maintain the uterus and bladder in position.

Remembering this brief outline of the mechanism of normally situated pelvic viscera, an analysis of the different operative procedures that have been proposed by various surgeons will disclose wherein they meet or fall short of the anatomical and physiological requirements. It is noteworthy that the requirements have been met in different ways but in some instances one or more means of securing support of the prolapsed organs have been magnified to the exclusion of others equally important. For example, shortening of the uterosacral ligaments has been exploited, while the relaxed broad ligaments and vesicouterine ligament have been ignored. To secure, above all other considerations, an anterior position of the uterus and to use the uterus as a fixed support of the bladder, the uterus has been interposed between the bladder and anterior vaginal wall. Failure to correct the elongation and relaxation of the broad ligaments and to supply some suspension feature has permitted the prolapse to recur. Again, ventrofixation of the uterus or of the cervix after subtotal hysterectomy will not avail without appropriate vaginal surgery.

The altered anatomical relations to be recognized and to be corrected by surgical measures my experience would summarize as follows: (1) Elongation of the lower uterine segment to which is attached the prolapsed bladder; (2) laceration and hypertrophy of the cervix; (3) relaxation and elongation of the bases of the broad ligament and uterosacral ligaments; (4) laceration and stretching of the fascial planes of the anterior vaginal wall through which the bladder is herniated, often carrying with it a portion of the urethra; (5) laceration of the fascia and muscles of the pelvic floor through which the rectum is herniated as an extreme rectocele.

Even in the extreme cases one or more of these factors may predominate and in such a case special surgical attention to that predominant factor should be the important surgical feature of the operation. For example, the extensive bladder separation after the method of Goffe, for prolapse of the bladder not associated with marked descensus of the lower uterine segment, should be the important surgical feature of such a case.

In the extreme cases, when bladder, uterus and rectum comprise the hernia and all of the disturbed anatomical relations are present, the surgical procedure must include measures to correct all these defects.

The operation I have found most satisfactory, for the majority of extreme cases comprises the following in the order given: (1) Separation of the bladder from the uterus to its peritoneal fold and completely from the anterior vaginal wall. (2) Amputation of the cervix at the level of the internal os. (3) Curetage of the uterus. (4) Spreading out, and stitching the saucer-shaped base of the bladder to the uterus at a high level. (5) Taking up the slack in the bases of the broad ligaments by drawing their lateral attachments to the cervix in front of the cervix and stitching them at this point. (6) In some cases the elongated uterosacral ligaments are cut from their posterior cervical attachments and made to encircle the cervix by stitching them to the anterior portion of the cervix. (7) The lateral fascial plates of the anterior vaginal wall are united and after sufficient resection of the redundant anterior vaginal wall the longitudinal incision is closed by interrupted catgut sutures, a gauze wick having been placed to drain the base of the bladder. (8) The pelvic floor is next restored by interposition of the levator muscles and fascia between the rectum and the posterior vaginal wall, the muscles, when they can be isolated, being stitched together with their fascia in front of the rectum.

When, in very long-standing cases, the muscles have atrophied and can not be isolated, an extensive triangular denudation of the posterior vaginal wall (Hegar) is brought together from side to side, by a continuous catgut stitch beginning below the cervix and as the perineum is approached the apposition is made with interrupted silkworm gut sutures shotted in the skin surface of the perineum.

The abdomen is then opened through a small incision and an extreme anteversion of the uterus is insured by a firm ventrofixation. In the less extreme cases, abdominal fixation of the uterus is not essential and may be omitted; during the child-bearing age it must be omitted and, if necessary, shortening of the round ligaments substituted. I feel that hysterectomy is usually a disadvantage, since the uterine body is available as a mechanical means of suspension, not only of the cervix and its vaginal attachments, which can be effected by ventrofixation of the cervix after subtotal hysterectomy, as suggested by Baldy, but by preserving the uterus to which the bladder has been newly attached at a high level, it serves also to suspend this organ. When the uterus and most of the broad ligaments have been removed at hysterectomy, should the bladder prolapse recur, we have lost valuable means for suspending the bladder, and the cure of cystocele under such circumstances is almost impossible. For the cases characterized by extreme relaxation and atrophy of the normal supports, ventrofixation of the uterus, even of the bladder, is often necessary, since the vaginal muscle and fascial supports have practically disappeared and any attempt to restore normal anatomical relations is hopeless.

The postoperative care of procidentia patients is most important. Rest in bed for four weeks is desirable for obvious reasons. A well-fitted abdominal binder should be worn indefinitely to relieve the pressure upon the operative area where, at best, the tissues are weak and prone to relax. Since adding the abdominal section to the technic of my prolapse operations I am certain the results have been more permanent, and there has been no added morbidity or mortality.

DISCUSSION.

Dr. J. M. Baldy, Philadelphia: I think that Dr. Norris in almost his last word gave the key-note to the question of prolapse. I am assuming his position is that of operation for absolutely complete prolapse. He says that under certain conditions and forms it is hopeless to attempt to restore normal anatomical relations, and when he has said that he has condemned the whole operation which he has advocated. He has attempted to lay down a normal anatomical relation as the basis of operation. He can not do it, nor can any other man do it, and most men have tried. I am not in the slightest degree interested in the question of supports from below, suspension from above, intra-abdominal pressure and its deflecting planes, when a woman comes to me with her pelvic organs between her thighs. I am interested in sending that woman home with those organs back in her body, with the assurance that they will stay there and that she will have no further trouble from the symptoms. It is utterly impossible to attempt to restore the anatomical conditions as they originally existed. In the first place we do not know what the anatomical conditions are. There are no two surgeons agreed to-day as to what are the anatomical conditions in the normal. How can you expect to know them in the abnormal? Dr. Norris' description of the vast dissections of the operation of separating the vagina from the uterus, the bladder from the uterus, etc., is a pretty fair description of the Goffe operation. If I want to see the results of any given procedure I go to the man who knows it practically or is supposed to know most about it, the man who has gone through the details of thinking it out and demonstrating it every day in his practice, and this I did with Goffe. When he had completed his operation he had to take his hands and push the uterus back in the vagina, it was so low down. That is what I theoretically expected to see. That is what I did see as the result of the operation performed by its originator, or greatest advocate. They hang the uterus to the bladder, but what holds up the bladder, which is as much prolapsed as is the uterus? It does not make any difference to me if a man criticizes what I do to get a result in its details, if I get the result. I have long since ceased attempting to do things anatomically in surgery.

We have gotten into the habit of calling a prolapse a hernia. Granting it is a hernia, if we do not allow the hernial contents to obtain access into the canal we will leave no hernia. Surgeons since time immemorial have been aiming to prevent the gut getting into the inguinal canal in hernia. Just so in these hernias, prevent these pelvic contents from getting low into the pelvis and we will accomplish very easily a cure which we can almost guarantee to this class of patients. Right here I want to say that every operation for hernia worth considering is based on a distortion of the original anatomical relations. Suspension is the only thing, and suspension from above, and suspension of all the pelvic contents (an anatomical cure), is the only thing that will give a sure result, of course supplemented by good plastic work in the vagina. After twenty-five years' work I have come to adopt this as a routine practice in these extreme cases. By doing this we can take away the heavy, useless organ of the woman who has passed the menopause, the uterus; we are able by taking it away to pull up and back into the vagina the tissues that belong in the vagina, the vaginal walls, the rectum, the bladder. We no longer have use for that uterus. I have not the slightest sentimental regard for a uterus in a woman past the menopause. By getting rid of that uterus I can pull these organs back into the vagina fully three inches further than I can if I do not get rid of it. In complete prolapse so stretched and elongated are the tissues, the vaginal wall and all that when we have restored the uterus wholly to its normal position we will still have two or three inches of prolapse hanging out of the vulva. By doing plastic work in the vagina in addition to the amputation of the uterus and often suspension of the stump, I aim not to restore the anatomical conditions, but to create such a condition that when the normal functions of the body, defecation and micturition, take place there can be from below no downward pull on the attachment which I have made from above. When we have done this we have done all that we can do. The gentlemen who split hairs on deflected planes and do wide dissecting operations, have been for years and are to-day constantly changing their position and their procedures. It hardly looks as if they could be satisfied with their results.

Dr. Brooke M. Anspach, Philadelphia: The treatment of prolapse is a very interesting subject, and I think there is no one scheme of treatment; that is, there is no one set of operations that is applicable to every case of prolapse. Dr. Baldy has spoken of the difference of opinion among gynecologists in reference to the cause of prolapse of the pelvic viscera. There are some men who argue that the ligaments of the uterus are the real supporting structures, and others argue that the pelvic floor is the principal support. I think the truth must be that all these structures play a part in the support of the uterus and in the proper position of the pelvic viscera. We must take into account the integrity of the pelvic floor, the weight of the uterus, the strength of the ligaments, and the tonicity of the abdominal wall; the strength of the abdominal wall influencing the position of the uterus by its effect on the intraabdominal pressure.

Now as to the contributory causes of prolapse, they are numerous, and, as the actual conditions found in a case of prolapse are not always the same, I think the treatment must differ. For example: In a case of prolapse in a nulliparous woman, it would be improper to do supravaginal hysterectomy and fix the stump of the uterus to the anterior abdominal wall. I think in such a case we should do what surgical work is necessary on the cervix and bladder, repair the perineum, and then suspend the uterus or shorten the round ligaments.

In women past the menopause, you may fix the uterus to the anterior abdominal wall, or in those cases in which there is so much relaxation that you can pull the whole uterus out of the incision, great advantage may be obtained by supravaginal amputation of the uterus, and fixation of the stump to the lower end of the incision. I have followed that plan with entire satisfaction.

In the case of old and feeble women, however, where prolapse is complicated by a marked cystocele, and in which invasion of the abdominal cavity is undesirable, there is great advantage and satisfactory results may be acquired in doing what is known, in this country, as the Watkins' operation; that is, interposing the body of the uterus between the bladder and the anterior vaginal wall. This can not be done unless the uterus is small, and unless you have some support from the uterosacral ligaments. By combining it with the operation recently proposed by Jellett, that of sewing the uterosacral ligaments in front of the uterus even where the uterosacrals are stretched and elongated, the operation may be used. With this plan of interposing the body of the uterus, we have had very excellent results at the University Hospital.

I have done the operation Dr. Baldy speaks of, and it gives very good results. As to the side-flap operation on the anterior vaginal wall, the Sänger, which Dr. Baldy condemns, to me it looks like a much more surgical procedure than to simply make a denudation of the anterior vaginal wall and bring the structures together.

Dr. H. D. Beyea, Philadelphia: I wish simply to speak of a certain number of statistics I made in connection with the operation which we practiced for prolapse in 1906. We followed the character of operation for prolapse on line of Dr. Norris' method. Where the uterus is greatly hypertrophied and the drag comes from below, the cause of prolapse is not primarily the uterus. We put the patients to bed for a week, replace the uterus and give large douches. The advantage of this is that the uterus will be reduced to a third in a few days. The advantage in restoring the anterior vaginal wall is that you can get near the tissue and judge the amount of tissue in the suture. The operation we practiced is as follows: After the amputation of the cervix there is a marked superinvolution of the uterus so that after a few months, contrary to what Dr. Baldy says, this uterus, being five inches in length in a woman long past the menopause where prolapse usually occurs, reduces in size until it almost disappears and therefore it is of no consequence. As Dr. Norris suggests, not only is the anterior wall obliterated, but the cervix is carried high up in the pelvis and the uterus is tilted up in anteflexion. It has all the advantages of operation done through the abdomen. We complete with the Hegar operation. We use straight needle and catch the tissue together, securing each suture as we introduce it. Up to 1906 we had operated upon seventy-two patients and I think probably one hundred patients up to this time. There has been only one recurrence. I wrote to all these people at that time; I heard from the large majority and there was recurrence in only one case. That was one of those extremely rare cases of prolapse in which all the muscular structures were atrophied and had disappeared and there was nothing to suture. It was my judgment at that time to do a hysterectomy following the lines of Dr. Baldy. None of the others have had a recurrence. The advantage of the operation is its freedom from danger. At the end of the operation the vagina admits but a finger, but by subinvolution the tissues relax and at about the end of a month there is a vagina of about normal capacity. In seventy-two patients there were four in whom there was no necessity to do extensive operation, and combined with ventrosuspension one became pregnant and was delivered without recurrence of prolapse. The principle of cure of this disease is that of plastic surgery and not mutilating surgery through the abdomen in which the uterus is removed.

Dr. John M. Fisher, Philadelphia: Considering the subject as presented by the essayist as well as the remarks of those who have followed in discussion, one would suppose that the only thing to do in procidentia is some form of operation. In Philadelphia eleven women have come to me with the uterus outside of the vulva, in some cases completely and in others almost completely, who have not had operations done and who are perfectly comfortable and thoroughly satisfied with what has been done for them for the relief of the condition. All these women have passed the menopause and most of them are widows in whom the functional use of these organs is no longer required. This very desirable result has been secured by the introduction of the Menge pessary. No doubt some of you have seen and used this instrument. It consists of a hard-rubber ring with a detachable stem fastened at right angles to a bar which passes across the center of the ring. When the ring is introduced into the vagina the stem rests in the vulvar orifice and keeps the ring from turning over. In women who have any portion of the shelving process of the pelvic floor left, and even in cases where the relaxation is such that considerable gaping of the vulva exists, the pessary of this particular type in many cases will retain the uterus in its proper position. Not in all cases. In women who have come to me suffering from this condition, in possibly fifty per cent. this instrument answered every purpose. The instrument may be worn for two or three months at a time, after which it should be removed, cleansed and replaced.

The first time I used it was several years ago at the Jefferson Hospital. Every preparation had been made for an operation on a patient with procidentia. I had just gotten these pessaries and as a matter of trial introduced one, and when the time came for the operation she said the pessary was good enough for her and she has been wearing it ever since. There are cases in which no form of retainer is of service and operation is absolutely necessary. My own preference is the Wertheim-Watkins operation of uterovaginal interposition, doing as a preliminary, in very many cases, amputation of the cervix and resection of the anterior vaginal wall when necessary before fixing the uterus between bladder and vagina and subsequently restoring the pelvic floor. Of six or seven cases I operated on in this way I have had one failure. In this particular case the cervix after a while again protruded from the vulvar orifice. I opened the abdomen, dissected the bladder off a portion of the body of the uterus to which it had been fastened, turned the uterus over and stitched its posterior surface to the abdominal wall. The woman has had no discomfort and is completely relieved of all her symptoms, four months after the operation.

Dr. Charles E. Thomson, Scranton: I am very glad that the time has come when I can thoroughly agree with Dr. Baldy. I want to say too that I have had no experience with the class of cases referred to by the last speaker. What these women come to us for is cure and, personally, I fail to cure them by any plastic measure. Six years ago at the time of our last meeting in Scranton, after having labored on the different systems at that time in vogue on many cases and having a large percentage of failures, a case came to me that had been operated upon three times, I believe. I consulted Dr. Clark and he advised me to do a hysterectomy after the method so well described by Baldy. I did it and got a complete cure and I have cured every case that has come to me since by that method. Speaking of anatomical relations, at the meeting of the Gynecological Society this year in Baltimore I was struck by an appeal that was made to the president, Dr. Howard Kelly, after a very animated discussion on this subject, as to whether or not we really do have anatomically a uterosacral ligament. The president turned to a series of beautiful charts where the ligaments were represented most graphically by an enthusiast, and said, "Of course we have such a ligament, don't you see them on the gentleman's drawings." That was the only evidence that we could get at that great meeting of these ligaments being anything more than a double fold of the peritoneum. Now if we are going to rely on something that probably does not exist anatomically to hold up these cases, it seems to me that we are relying on something that is not going to be very permanent.

Dr. Norris, closing: I am for the anatomical surgeon every time. In the cases of extreme type I believe Dr. Baldy is correct, but there are very many other cases in which it pays to maintain the anatomical relations by the operation. Those men who do vaginal work do find the ligaments and muscles that support the uterus. There are cases where the careful anatomical surgeon finds the anatomical defects and corrects them. We may differ in the physiological interpretation of the anatomical supports of the uterus. We may think it is intraabdominal pressure, pelvic fascia, levator muscles, suspension or support, but the anatomical relations are there, and the anatomical structures are to be found. There has been no step in advance in the treatment of prolapse of the bladder that begins to equal the principle of dissecting the bladder from the uterus and elevating it to its normal level. Dr. Goffe has elaborated this principle and those who have utilized it and have seen the results are the most enthusiastic. I am here to defend that principle as based on correct anatomy and sound surgery.

Dr. Baldy has referred to sepsis. Dr. Baldy has no sepsis in his plastic vaginal surgery; none of us have. During twenty-five years I have practically had none. Our ordinary plastic surgery of the vagina is free from sepsis. There is an anatomy of complete prolapse of the uterus. There are muscles and fascia and ligaments to be found and we simply fortify the suspension operation advocated by Dr. Baldy by correcting these anatomical deviations. We can suspend organs, but supports of that kind often fail. Every operator knows that ventrosuspensions sometimes break loose again. We must get back to anatomy and when we can correct it let us use anything that nature has left us to make our operation permanent in results. As to the Menge pessary, I have several patients wearing them. Of all the pessaries for prolapse none is better. It is not so uniformly efficient, however, as Dr. Fisher would lead us to suppose. In several patients ulceration of the vagina due to the pessary has required treatment and removal of the pessary. The upright portion of the pessary, comparable to the handle of an umbrella, which presses into the rectocele, will often produce ulceration at this point, and always requires watching. Some women can not retain this pessary and will frequently have it drop out. The Menge pessary has a field of usefulness, especially where heart or kidney disease contraindicates operation. I want to say to those of you who have failed to cure prolapse by plastic surgery, that I fear you have not mastered the plastic skill required.

A well-trained sensible doctor is one of the most valuable assets of a community, worth to-day, as in Homer's time, many another man. To make him efficient is our highest ambition as teachers, to save him from evil should be our constant care as a guild.—Osler.

MASSAGE AND MASSAGE OPERATORS IN THE CITY OF PITTSBURGH.

BY THEODORE DILLER, M.D.,
Pittsburgh.

(Read before the Pittsburgh Academy of Medicine, October 8, 1912.)

It seems to me worth while to say a word regarding massage and massage operators as I have had experience with them in the past twenty years in the city of Pittsburgh.

During this time a large number of massage operators, both men and women, have called upon me at my office seeking employment. Oddly enough most of them appear to have come to Pittsburgh under the impression that massage has been little used here and that our physicians have had insufficient opportunity to prescribe it. Most of these operators came with the reports that they have studied at one of the Philadelphia schools of massage; others have brought foreign references, having had foreign training, chiefly Swedish, and some have come from sanatoriums. Each of these applicants invariably has stated that it was his or her desire and intention to do massage for physicians only and under their direction. Very often the applicant has desired and half expected to go away from the office directly to the home of one of my patients with directions to massage him. To such I always mildly suggest that when my patients need massage I do not sit in the office and wait for some one to come along to do this work, but set out to find some one. These massage operators come to Pittsburgh and are generally lost sight of. Only a very few have remained for any considerable length of time.

I am unable to say how much work there is in the city of Pittsburgh for massage operators; but I strongly suspect there is not nearly enough work to keep busy those who come here expecting to get a great deal of work in a short time, and I strongly suspect that Pittsburgh has been unduly exploited as a wealthy city, containing a great many rich people who could easily have massage if they desired it and would have no difficulty in paying for it, who badly need it, and who have insufficient opportunity of getting it. Inquiry at a nurses' directory (the largest and oldest in the city) reveals the fact that there are very few calls for massage operators and that at present only three are registered.

All or nearly all of the operators who come here with the expectation, desire and intention of working for physicians only, subsequently accept employment from patients directly. It is not very hard to understand why this should be, for many persons who need, or think they need, or desire massage for real or fancied ailments, as a tonic or hygienic measure, as a diversion or social fad, feel they need not seek a physician's advice before they resort to such a simple, harmless procedure as massage. And human nature being such as it is, the massage operator, who had intended to work for physicians only and has not found nearly so much work as he expected, does not find it in himself to reject such applicants.

As for myself, although practicing a specialty (nervous diseases) which might seem to be one which especially would call into requisition the massage operator, I do as a matter of fact give but little employment to those working here in the city. And this for several reasons.

In the first place, experience has taught me that massage operators, generally speaking, are as full of theories as a dog is of fleas. And here I do not wish to be too severe, for I realize very well that it is the commonest attitude and in fact the normal mental attitude for all of us to form theories as to any given condition which presents itself to our notice. If the train stops we form some theory as to why this is so, or if we hear a noise about the house, a theory suggests itself at once to explain it. A flag flying, a crowd assembled on the street, or an unusual sound or light leads one to form theories. So with the massage operator in the presence of a subject. But when he solicits work from the physician he declares, honestly enough I believe, that he desires to follow the physician's orders explicitly and in no way to interfere with him. But when he goes to work he follows the bent of human nature and finds it impossible not to theorize; and if he keeps his mouth shut to the patient (a practice which is rare) he must air his views to the physician as one man did to me very recently in the following written report:—

> "I find no special defect. General tone of muscles and other tissues are relaxed. Intercostals are inclined to be neuralgic, especially the left sixth full length. He has been quite large in the abdomen until a short time ago. Abdominal muscles are relaxed. It might be well to consider a support (merely a suggestion). I would suggest that I give general system of exercise, especially attention to the abdominal muscles. The neck was a little stiff but I limbered it up a little."

Comment here is not needed.

If the masseur has made up his mind to be ethical and not advise the patient, he is pretty sure to be tempted by the patient himself and led into conversation by him so that he falls, in spite of himself, and delivers the opinion which he can not help forming. Another peculiarity of the massage operator appears to be that he can not regard his operation as a *part* of the physician's treatment but looks upon it as if it were the *entire* treatment, and speaks and acts as though the whole issue depended upon the massage which he is giving.

There is a mental element in all diseases, even surgical affections, which is more especially seen in nervous diseases. Indeed, here it is often the chief or sole element.

This being true, the physician who would place his patient in the hands of a massage operator, understanding them as I do takes a risk. He may have carefully planned out a method of bringing the patient to a healthful mental attitude; this may be defeated by the masseur acting in the most innocent way. For this reason alone I have often hesitated and refrained from advising massage.

This objection to massage does not exist to any thing like the same extent in a sanatorium. There the patient is seen regularly by the physician and he does not dismiss the physician, and depend upon the operator to cut off the expense, as he is apt to do in private practice. Moreover, the operator in a sanatorium is much more directly under the control of the physician than he is in outside practice. So, often, when I find or believe a patient would do well on massage, I send him to a sanatorium. There is a double advantage in this; that which I have just mentioned, the better control of the massage operator by the physician at the sanatorium, and the other is the financial reason. Massage at a sanatorium is very much less expensive than it is at home. The patient who needs massage is apt to need other treatment which a good sanatorium can give. Where massage is needed at all, it is usually needed over a considerable period of time. And here the financial condition of the patient in the great majority of cases makes such treatment by massage operators impracticable. For example, I greatly value massage for patients suffering from poliomyelitis and I believe this treatment should be kept up for many months. In many cases it is an item of expense the patient is unable to pay, and such treatment for patients who live outside of the city is generally impossible. Oftentimes in such cases I have arranged for a few treatments by the operator to be given in the presence of the mother and with instructions to the mother to carry them out subsequently. And I am bound to say massage operators (whom I have called upon in a good many instances for such services) have never declined to give it, and have apparently not given it grudgingly.

In writing all this I desire to give some little idea of how massage and massage operators have appeared to me in the city of Pittsburgh and as to the prospects for work by massage operators who may contemplate coming here. To any such I would suggest that they write to Miss Duncan, 43 Fernando St., care of Nurses Directory, Pittsburgh Academy of Medicine, Pittsburgh, for information as to the prospect of obtaining work here. I have tried to make this communication frank, and I trust it may be seen by some massage operators and by some in charge of schools for the instruction of massage as well as by the regular readers of the JOURNAL.

In conclusion, I would state my opinion that the best place for massage is in the hospital and sanatorium; and that we physicians should use our influence to provide amply for it and to extend its use in institutions and come more and more to appreciate its value; and at the same time I believe that, for the reasons I have given, massage given by physician's prescription outside of hospitals is probably quite limited and there will be lessened rather than increased demand for such massage in the future on the part of physicians.

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THE LOWERING OF HIGH ARTERIAL TENSION.

The more routinely one uses the sphygmomanometer the more he must become impressed with the pathological importance of too high arterial tension. Since these instruments have come into common use the evil effects of the condition have become so well known that the whole profession is eagerly interested in any information of real value concerning the methods of lowering blood pressure. The most potent chemical agents used for this purpose at present are without doubt those belonging to the nitrite series. Unfortunately most of these are so fleeting in their action as to be of little practical value; the futility of administering nitroglycerin three or four times a day has been so repeatedly pointed out that it would seem supererogatory to again call attention to the fact that even when given by the mouth the influence of this remedy does not endure for more than thirty or forty minutes.

Some interesting light has been thrown by Lawrence[1] on the value of the more slowly acting members of the nitrite series and also of the nonmedicinal means of reducing blood pressure. Lawrence found that in the great majority of cases of high tension in which he employed them that either sodium nitrite, erythrol tetranitrate or mannitol hexanitrate would cause a fall of pressure amounting to some twenty or thirty millimeters. After sodium nitrite the pressure returned to its original height in about three hours, but the effective lowering was not over two hours. Erythrol tetranitrate was distinctly slower in its effects, its influence being manifest in twenty-five minutes and lasting about four hours. The most important fact revealed concerning these drugs was that with none of them, not excluding even the slowly acting erythrol, was it possible by any frequency of administration to keep the tension down for more than forty-eight hours. If the drug in sufficient dose was persisted in, the patient developed such alarming symptoms as to necessitate its withdrawal. If, however, its administration was interrupted for two or three days the remedy could again be used with favorable results.

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[1] *Arch. Int. Med.*, April, 1912.

Perhaps of even greater interest was his experience with the nonmedical remedies for the reduction of tension. Of all measures he found, as might be anticipated, that the most potent, both as to degree of fall and duration, was venesection. After blood-letting, the pressure fell gradually, not reaching its lowest point (some thirty millimeters below the original) until six or seven hours after the operation and remaining down in one case as long as thirty-six hours. Repeated venesections can not, however, be continued indefinitely and, while of the utmost value as an emergency treatment, is of little service in chronic hypertension. Against the sweat bath no such argument can be used and Lawrence's report on this measure, while greatly lessened in its scientific value by the absence of any data as to the cause of high tension in his patients, is still of importance enough to bear repetition. He found that in about one half the cases either the hot air or electric light bath would produce a fall of pressure amounting on the average to some twenty-four millimeters of mercury. It is of interest to note that those patients whose circulatory apparatus did not show the effects of the sweating did not have any sweating; in other words, when the hot bath caused free sweating it caused also fall of blood pressure. He also tried the so much vaunted high frequency current but in only one case out of ten trials did he obtain any lowering of tension.

H. C. W., Jr.

WHAT ABOUT NINETEEN THIRTEEN?

A recent editorial in the *Philadelphia Press* closed as follows:—

> "If the dying year leaves you ahead of the game or a loser, it is all the same. If you are in arrears ask yourself, in all honesty, Why? Confess the error or weakness and master it. The mere effort to be good is a purification. Even failing, whoever tried to be that in 1912 did nobly well and trying again in 1913 a similar resolve will be nobler."

Are we, as physicians, going to try to give our clientele better service, to make more careful diagnoses, to be more attentive to the needs or the reasonable wishes of our patients, to act as advisers in health as well as in sickness? Are we going to remember that, while it is our duty to give even more thought and study to the needs of those who employ us, it is equally our duty to give more attention to our personal needs and conveniences. If we serve our patients better, let us be the more ready promptly to render adequate bills for our services and follow them up when necessary with courteous reminders that we need money to discharge our own just obligations to our families and to society and to enable us to render the best service to our patients.

There is also our duty to our brother physicians, and this duty is not wholly unselfish, for what helps the profession as a whole helps the individual members of the profession. There is a need to increase the ethics and higher ideals of some of our profession. May we not increase our interest, our kindliness of thought and even our admiration for the physician who is working alongside of us and who mayhap is even a better man than ourselves? We need to get even closer together and to push from us every little jealousy that may at some time have found lodgment in our lives. The county society should have our hearty support at all times and in all ways. Let us help make its meetings so valuable that no member can afford to stay away, and then let us urge every reputable physician to join, making a special effort to secure as members all the younger physicians in the county. S.

SOME OF THE DUTIES OF MEMBERSHIP.

The December number of *Colorado Medicine* has an editorial with the above heading that is so good and so appropriate for our state that the first three paragraphs are given below:—

"With the beginning of the new year the dues of our component societies become due and payable. Two months are allowed in which to make payment. After March 1st, all who have not paid stand suspended. Secretaries then have one month in which to make up and send in their annual reports to the state society. Members who then stand suspended are to be reported, and, according to our new by-laws, they are to be automatically dropped from the rolls of membership of the state society. It is the duty of the state secretary to make a monthly report of the names dropped from the rolls to the American Medical Association.

"It is the duty of the secretaries of our component societies to send out a notice to each of their members on January 1st, that dues are payable. On February 1st all who have not paid should be sent another notice, and on March 1st, all who have not paid should be notified that they stand suspended. An attempt should now be made to see these suspended members and urge them to pay up and thus retain their membership. While it would seem that this work on the part of the secretaries should be unnecessary, it is important that it should be done, for the reason that some men are very sensitive and easy to take offense at some imaginary cause. A personal interview will bring the grievance to the surface and a tactful secretary can easily smooth the ruffled feelings of the member and make him see that membership in his local and state and national medical societies is a bigger thing than mere personal grievances; that membership is also essential to his standing in the medical profession of his section, and further that his name, influence and active support is needed by the profession of which he has been an honored member.

"On the other hand, members of our societies should remember that our secretaries are busy men and should be relieved, as far as possible, of unnecessary work. The easy way to help is to pay up promptly as soon as a bill for dues is received."

The first paragraph is for any one who may fear to have his society adopt the plan recommended by the Conference of State Secretaries, the second paragraph is for all our county secretaries and the third for those members who year after year cause the secretaries so much unnecessary work and the societies so much expense in the collection of dues that should be promptly paid without any "dunning." S.

THE PHILADELPHIA SESSION

The trustees have elected the assistant secretary, Dr. W. H. Cameron, 4615 Forbes Street, Pittsburgh, general manager of the sixty-third annual session at Philadelphia, September 22 to 25, 1913. The Philadelphia County Medical Society has appointed Dr. Henry D. Jump, 4634 Chester Ave., Philadelphia, chairman of the Committee on Arrangements, with the following subcommittees: Clinics, Drs. Edward Martin, 1506 Locust Street, L. J. Hammond, A. C Morgan and W. E. Robertson; Scientific Exhibits, Drs. Joseph McFarland, 442 West Stafford Street, A. G. Ellis, John A. Kolmer and Gordon J. Saxon; Hotels, Drs. Clarence P. Franklin, 121 South Sixteenth Street, Lewis H. Adler, Jr., James

H. Baldwin and William S. Wray; Entertainment, Drs. B. F. Stahl, 1727 Pine Street, Howard E. Bricker, George M. Dorrance and Howard D. Geisler.

The appointment of these efficient gentlemen and the excellent facilities afforded by Philadelphia for the session insure the best of arrangements for a successful gathering. The Committee on Scientific Work hopes to arrange a program that will be even better than previous ones. It is not too early to decide to spend the last week of September in Philadelphia. S.

Changes in Membership of County Societies.

The following reports have been received since the December JOURNAL was printed:—

ALLEGHENY COUNTY: *New Members*—George S. Cunningham, A. William Duff, Arthur T. Henrici, Charles P. Leininger, J. M. Miller, John G. Ricketts, Henry A. Shaw, Charles W. Shirey, Pittsburgh; Robert N. Lowrie, Daniel A. Metzgar, S. Roy Mills, J. Calvin Nicholls, Joseph B. Smith, Braddock; Robert L. Steele, McKeesport. *Resigned*—Orion F. Konantz (left the state); George W. Pollock. *Removals*—Carlisle E. McKee from Vienna, Austria, to Greensburg (Westmoreland Co.); Milton D. Schumaker from Birdville to Tarentum, R.D. 1.

BERKS COUNTY: *Removal*—William W. Livingood from Robesonia to 818 North Third St., Reading.

BLAIR COUNTY: *New Member*—Augustus Sheridan Kech, Altoona.

CARBON COUNTY: *Removal*—William W. Reber from Los Angeles, Cal., to Box 64, Inglewood, Cal.

CENTER COUNTY: *Removal*—Wilmer Kipe from State College to Doylestown (Bucks Co.).

CLARION COUNTY: *New Member*—Sloan A. Brown, Foxburg.

DAUPHIN COUNTY: *Removal*—Wilmot Ayres from Halifax to Bedford (Bedford Co.).

DELAWARE COUNTY: *New Member*—John Schofield Eynon, Chester.

ERIE COUNTY: *New Member*—J. Frank Rutherford, Cranesville. *Transfer*—Samuel W. Swigart to Mifflin County Society.

LANCASTER COUNTY: *New Members*—Ammon Gross Hess, Mountville; Silas Robert Posey, Lititz.

LEHIGH COUNTY: *New Member*—Eugene H. Mohr, Alburtis. *Death*—Peter O. Bleiler (Jefferson Med. Coll., '76) in Allentown, December 10.

LUZERNE COUNTY: *New Member*—Robert Payne Beckwith, Plymouth. *Resigned*—John J. Craig. *Transfer*—Harry C. Podall to Montgomery County Society.

MCKEAN COUNTY: *New Members*—Frederick C. Johnson, Mont Alto (Franklin Co.); James B. Stewart, Bradford. *Removal*—Charles F. Elliott from Mt. Jewett to Dayton, N. Y.

MIFFLIN COUNTY: *New Member*—Samuel W. Swigart, Lewistown (by transfer from Erie Co.).

MONTGOMERY COUNTY: *New Member*—Harry C. Podall, Norristown (by transfer from Luzerne Co.).

PERRY COUNTY: *Removal*—John H. Bryner from Ickesburg to 1408 Derry St., Harrisburg (Dauphin Co.).

PHILADELPHIA COUNTY: *New Members*—Wilson Bowers, Richard F. Gerlach, Morris Ginsburg, Margaret R. Large, Robert S. McCombs, John R. Minehart, Charles A. Moriarty, Horace D. Perlman, Hyman I. Schenker, Mervyn Ross Taylor, Elsie Rau Treichler, Bernard C. Zall, Howell S. Zulick, Philadelphia. *Deaths*—Wilbur Fisk Litch (Jefferson Med. Coll., '65) in Ardmore, December 25, aged 72; Nathan Ward (Jefferson Med. Coll., '93) of Philadelphia, in Elizabeth City, N. C., December 3. *Transfer*—George W. McCafferty, Jr., to Wayne County Society. *Removals*—Harry K. Carey from Philadelphia to Bedford, Indiana; H. Conrad Egly from Philadelphia to Jenkintown (Montgomery Co.); Lucius W. Johnson from Philadelphia to Navy Dept., Washington, D. C.; J. Gurney Taylor from Portland, Oregon, to Wynnewood (Montgomery Co.).

SOMERSET COUNTY: *New Member*—Bart James Smith, Windber.

SUSQUEHANNA COUNTY: *Resigned*—Clayton Washburn (removed to Florida).

VENANGO COUNTY: *New Member*—W. W. Serrill, Kellettville (Forest Co.). *Death*—Edward Wright Smitheman (Univ. of Pennsylvania, '98) of Oil City, in Philadelphia, November 27, from tuberculosis, aged 37.

WARREN COUNTY: *New Members*—William Patrick Clancy, Alan Finlayson, Mary P. Mitchell, Warren.

WAYNE COUNTY: *New Member*—George W. McCafferty, Jr., Fairview (by transfer from Philadelphia Co.).

WYOMING COUNTY: *Death*—Ulysses Edward Dornsife (Jefferson Med. Coll., '96) of Tunkhannock, in Wilkes-Barre, November 19, from acute Bright's disease, aged 44.

YORK COUNTY: *New Member*—Oscar A. Delle, York.

Present membership 5896. S.

STATE NEWS ITEMS.

BORN.

To Dr. and Mrs. John Norman Henry, Philadelphia, a son.

MARRIED.

Dr. J. Homer McCready and Miss Jean Alice Brown, both of Pittsburgh, December 3.

Dr. Clarence S. Allison, Ingomar, and Miss Zella Izetta Henry, Evans City, December 11.

Dr. James K. Young, and Miss Edith Grieves, both of Philadelphia, December 21.

Dr. Max Horowitz, Johnstown, and Miss Frances Moskowitz, Brooklyn, December 11.

Dr. Frederick B. Harding, and Miss Marian Roberts Jones, both of Tamaqua, December 11.

DIED.

Dr. L. Haines Crothers (Univ. of Pennsylvania, '99) in Chester, January 2, aged 35.

Dr. William Blaney Stevenson (Univ. of Pittsburgh, '11) in Pittsburgh, December 19, aged 24.

Dr. Simon Goldmann (Kaiserliche Konigliche Univ., Vienna, '89) in Pittsburgh, December 14, aged 49.

Dr. Lemuel S. Lawson (Univ. of Maryland, Baltimore, '67) in Dallastown, December 5, from uremia, aged 75.

Dr. John H. Yeagley (Hahnemann Med. Coll., Philadelphia, '78) in York, December 17, from pneumonia, aged 60.

Dr. James M. Torrence (Jefferson Med. Coll., '73) in Indiana, December 16, following an operation for appendicitis, aged 67.

Dr. Monroe L. Vansant (Hahnemann Med. Coll., Philadelphia, '57) in Philadelphia, September 22, from senile debility, aged 90.

ITEMS.

Dr. Rufus B. Scarlett, Philadelphia, is spending some time in Europe.

The State Tuberculosis Sanitarium at Cresson is now receiving patients.

Dr. H. C. Vaught, Sharpsburg, is a patient in the Allegheny General Hospital.

Dr. Edwin B. Miller, Altoona, has returned from Jefferson Medical College Hospital much improved in health.

Dr. Roland G. Curtin, Philadelphia, has been elected vice president of tbe New England Society of Pennsylvania.

Dr. S. S. Stryker, Philadelphia, for many years on the medical staff of the Presbyterian Hospital, has just resigned.

The Death Rate in Pennsylvania has been reduced to fourteen in a thousand, according to report of Health Commissioner Dixon.

Dr. James M. Anders, 1605 Walnut St., Philadelphia, is chairman of a committee to organize the American Society for Physicians' Study Travels.

Dr. L. D. Frescoln, Philadelphia, has resigned as chief resident physician of the Episcopal Hospital, to enter general practice in West Philadelphia.

The College of Physicians of Philadelphia, at its annual election in January, elected Dr. James C. Wilson, president, and Dr. Richard Harte, vice president.

The State Board of Medical Education and Licensure has granted licenses to seventy physicians who took the examination on December 27. Forty-one applicants failed.

Smallpox at Chester. Bindetta Fobis, five years old, one of the survivors of the Titanic, died in Chester, December 16, from smallpox. Several other cases have developed with two more deaths.

Dr. J. S. Phillips, Allegheny, while crossing the Sierra Nevada Mountains on New Year's, by his coolness and presence of mind prevented a general hold-up, resulting in the capture of five out of six train robbers.

The University of Pennsylvania is planning an enlargement to the Maternity connected with the University, in order to meet the requirements of the state boards of examiners which are demanding that graduates in medicine must attend a larger number of confinements than heretofore.

The Association of Resident and Ex-resident Physicians of the Philadelphia Hospital held its twenty-sixth annual reunion on December 3, Dr. Lawrence F. Flick presiding and Dr. Benjamin F. Stahl acting as toastmaster. Drs. J. Solis-Cohen, Joseph S. Neff, J. Ewing Mears, Theodore Diller and Richard C. Norris were among the speakers.

Smallpox in Wayne County. Some fifty cases of smallpox have developed in the northern part of Wayne County. The postmaster at Hales Eddy, N. Y., handled the mails for two weeks after he had developed smallpox, and the carriers who brought the mail from that office into Wayne County contracted the disease. Five cases of smallpox were reported on December 26 at Conemaugh, Cambria County.

Health of Philadelphia. The report for the week ending January 4 shows that 245 cases of measles were reported; scarlet fever, 125; tuberculosis, 88; diphtheria, 82; chickenpox, 81; pneumonia, 67; mumps, 29; whooping cough, 15; erysipelas, 13; typhoid fever, 12; infantile paralysis, 1. There were 574 deaths as compared with 470 for the previous week, and 536 for the corresponding week last year. From pneumonia there were 94 deaths; heart disease, 76; tuberculosis, 60; kidney disease, 59; cancer, 24.

Philadelphia led the United States in the reduction on infant mortality during 1912, according to the report of the U.S. Census Bureau. Total deaths were 24,216, an annual death rate of 15.08 per thousand. "Of children under one year of age there were 4156 deaths in 1912 and 4616 in 1911, a decrease of ten per cent. Of deaths of children under two years of age, the number in 1912 was 4970, and in 1911, 5767, a decrease of fourteen per cent. The number of deaths of children under five years of age was 5822 in 1912, and 6926 in 1911, a reduction of sixteen per cent."

The Child Hygiene Committee of Philadelphia has conducted its first neighborhood show in the Catto School, on Lombard Street, west of Twentieth; January 8-19. This show was put in this neighborhood particularly for the colored people of Philadelphia, and was managed by them. It was held under the auspices of the Whittier Center with the coöperation of the Armstrong Association, the Society for the Protection of Colored Women, the Glen Mills Farm, and various other associations interested in the welfare of the colored people. The executive committee was composed of Drs. Turner and Minton, Professors Brock and Whyte, Rev. Dr. Wright and Mrs. Layton.

GENERAL NEWS ITEMS.

The International Medical Congress meets in London in the summer of 1913.

Dr. Ira Remsen, President of Johns Hopkins University, was operated upon December 31, by Dr. Hugh Young.

Physicians in the Maine Legislature. There are now three physicians in the Senate and eight in the House of Representatives in Maine.

Hookworm Disease in Kentucky. The first report of the Commission, made December 21, shows out of 1785 persons examined in Breathitt County 1263 were affected.

To Study Infant Mortality. The Children's Bureau has undertaken a house to house inquiry regarding infant mortality. Dr. Cressy L. Wilbur estimates that one baby out of every eight dies before it is a year old.

The United States Civil Service Commission announces a competitive examination for male physicians on February 5, to secure eligibles to fill vacancies in the Indian Service. Candidates may apply to the United States Civil Service Commission, asking for Form 1312.

Common Towel Banished. An amendment to the interstate quarantine regulations, in force December 9, by the treasury department, orders the abolition of the common towel from railroad cars, steamers and other interstate vehicles and stations. Towels may be used again only after sterilization.

New and Nonofficial Remedies. Since December 1 the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with New and Nonofficial Remedies: Vacules cornutol, H. K. Mulford Company; calcium glycerophosphate, Monsanto Chemical Works; Slee's diphtheria antitoxin, Abbott Alkaloidal Company.

Public Health Work in North Carolina. The assistant secretary of the State Board of Health of North Carolina writes, "We like very much the feature of having county superintendents of health in every county in the state, particularly when we can secure their services for the entire time. North Carolina now has five county superintendents of health devoting their entire time to public health work in their respective counties."

Dr. Wiley's Successor. Dr. Carl L. Alsberg, a chemist in the Bureau of Plant Industry of the Department of Agriculture, has been appointed chief of the Bureau of Chemistry. Dr. Alsberg was graduated from Columbia University in 1896 and from the College of Physicians and Surgeons, New York, in 1900. After spending two years in study in Germany, he took charge in 1903 of the Department of Biological Chemistry at Harvard Medical School, until 1908, when he entered the Bureau of Plant Industry.

Medical Missionaries Wanted. The Student Volunteer Movement for Foreign Missionaries, 125 East 27th Street, New York, can place a woman physician in a hospital in Jhansi, a city of fifty-six thousand in India; another woman physician in Korea; a male physician in a Hospital in Guanajuato, a city of sixty thousand in Mexico; and five trained nurses in hospitals in Turkey, India, and Celon. One of these positions is at the Azariah Smith Hospital at Aintab, in the Central Turkey Mission, which needs a nurse to be associated with Miss Bewer. The hospital is connected with the Central Turkey College and has a staff of eight workers. In 1911, ward patients to the number of 223 were treated; 353 major and 500 minor operations performed; 40,445 dispensary treatments given. There are forty-two beds and two cribs in the hospital.

Dr. Harry Lane as United States Senator. Dr. Harry Lane, of Portland, has been elected United States senator from the state of Oregon. This is of more than passing significance. Being the age of progress and reform, it is gratifying that this august body, the United States Senate, having so much to do for the whole people along the lines of sanitation, hygiene, prophylaxis of disease, quarantine, pure food laws and kindred matters, will have the energetic aid of Dr. Lane in their advancement. When cults and fads and isms are springing into being all around us, and having their bright though ephemeral existence, the forces of rational conservatism need the steady guiding hand of intelligent and practical knowledge. Dr. Lane possesses this, and in addition carries an unalterable rectitude and unflinching honesty into all his transactions. His heart has always been in genuine sympathy with even the most unfortunate of his fellow men, while his intellectual gaze is not circumscribed by either political or geographical lines.—*Northwest Medicine.*

Physicians Incorporate a New Organization. The American Society of Medical Economics has recently been incorporated and Dr. E. Eliot

Harris, chairman of the committee on legislation of the Medical Society of the County of New York, has been elected president. All licensed practitioners are eligible to membership in this organization no matter to what school of medicine they may belong. The object of the society is to take up economical work that the scientific medical profession can not handle; its main object is to foster a spirit of loyalty to the medical profession and to the public. Among the purposes of the society are the exposition and suppression of all forms of quackery or dishonorable practice of medicine, rendering assistance to constituted authorities in the enforcement of all medical laws relating to the sale of pure and standard food and drugs and the accurate compounding and dispensing of medicine. It will aid in legislation which shall provide for the revocation of the license to practice medicine or any license issued by the board of regents for causes such as fraudulent advertising or advertising in a way intended to impose on ignorant or unsuspecting persons. It will investigate and take action in regard to the practice of all licensed physicians, whether they be members of this society or not, in so far as the same reflects unfavorably on the profession or the public. The society will coöperate with other societies in establishing certified pharmacies and will oppose encroachments on the practice of medicine, such as the extension of the Board of Health along the lines of clinics and curative medicine instead of extension along the lines of preventive medicine.

The Constructive Work of the Council on Pharmacy and Chemistry. During the first two or three years of its existence, a single phase of the work on the Council on Pharmacy and Chemistry—the exposure of the many worthless or fraudulent proprietary medicines foisted on the medical profession—attracted attention. Gradually, however, another phase is becoming more prominent—that of its constructive work, manifested in the improvement of preparations already on the market and in the check exercised on the output of new medicines. In the New and Nonofficial Remedies Department of this issue are found two examples of the influence which the Council has had in the way of improving the quality of drugs. The manufacture of a satisfactory brand of calcium glycerophosphate by the Monsanto Chemical Works is the direct result of the report of the Council on the poor quality of the calcium glycerophosphate on the American market. This report, it will be remembered, gave the results of an examination made in the Association's laboratory of the various brands on the market which showed that all were highly impure and that some were not deserving of the title "calcium glycerophosphate." In view of the poor quality of the product, the Council at that time decided not to describe calcium glycerophosphate in N. N. R. It now has been able to admit this drug and has listed the Monsanto brand as complying with the requirements adopted. Vacules cornutol represents a further improvement by the H. K. Mulford Company in the reliability of their ergot preparations. The general unreliability of ergot preparations having been demonstrated, the Mulford Company some time ago presented to the Council for examination its standardized ergot preparation, cornutol. Experiments have indicated that the deterioration of ergot preparations is retarded materially when they are kept away from the air. The firm, therefore, now offers its cornutol in sealed containers from which the air has been removed prior to sealing. These efforts to market products of good quality indicate a recognition of the principle that mere words (advertising claims not substantiated by the facts) can no longer be depended on for profitable investment, but that for continued commercial success, goods of merit are demanded.—*Jour. A. M. A.*, Jan. 4, 1913.

COUNTY BULLETIN EXCERPTS.

Medical Monthly, Bucks.

Your Patients and Friends often consult you about what life insurance company is best to insure in. Be sure to advise them to insure in a good strong company, and be equally sure to recommend a company that is willing to pay their medical examiners a fair fee for their work and opinion, and the fee to be not less than five dollars for a standard examination, which among other things required includes a blood-pressure and urine report.

Medical Society Notes, Northumberland.

With This Issue we consign all the pleasures and misgivings of 1912 to the grave of time and welcome the jaunty little figure of 1913 on the threshold of the minute. Let us remember the good and forget the bad. Forget that you cheated yourself out of many pleasant and profitable hours when you were absent from society meetings (allow your conscience a chance), but give yourself a chide so that the same offense may not be repeated for 1913.

Weekly Roster, Philadelphia.

Sir William Ramsey in Philadelphia. That an electron is a distinct element and that electricity has but one current, the negative, were among the statements made in the address of Sir William Ramsey, K.C.B., F.R.S., of Scotland, before the American Philosophical Society here on the 1st of November.

The Bulletin, Westmoreland.

At a Conference of the local health officials and State Health Commissioner Samuel G. Dixon, held in Pittsburgh, it was brought out that from the beginning to the ending of the epidemic of smallpox there were 110 cases, 107 of which have been classified. Of this number 85 of the patients had never been vaccinated and 22 had been vaccinated, but of the latter only five within seven years. Thirty of the patients died, and 28 of these were among those who had not been vaccinated. In the face of such a showing it would be folly to deny that vaccination is not a protection to the individual and to the community.

COMMUNICATIONS.

A CORRECTION.

To the Editor: In the president's address at the General Meeting, Medical Society of the State of Pennsylvania, September 24, 1912, Dr. Tyson in referring to the admission of women students to the Pennsylvania Hospital says, "The consequence was a disorderly and discreditable exhibition on the part of the men students and a resignation of one of the visiting surgeons opposed to the women: but so highly was this distinguished surgeon appreciated by the managers of the hospital that he was reëlected with the understanding that the women students should not attend his clinics."

If the visiting surgeon referred to was Dr. D. Hayes Agnew, his resignation *was* based on an unwillingness "to give surgical instruction to female students," but his letter accepting an appointment on the staff six years later contains no reference to the vexed question as the following letter will show:—

"1611 Chestnut St., Phila.
"May 9th, 1877.

"To the Board of Managers of the Pennsylvania Hospital.

"Gentlemen: I am deeply touched by both the compliment and the confidence implied in the recent action of your Board in electing me, without solicitation on my part, and with singular unanimity, as one of the surgeons to the Institution over whose interests you preside. Though pressed with many arduous and exacting duties, yet, under the circumstances I do not feel at liberty to decline, and shall therefore enter upon the duties of the place with the determination to serve the Hospital to the best of my ability.

"With considerations of the highest respect, I am, very respectfully,

"Your obedient servant,
(sig.) D. Hayes Agnew.

Moreover, Dr. Agnew did lecture to classes of men and women students as the writer can testify from personal knowledge, having been herself one of the audience at such a lecture.

Yours very truly,
A STUDENT OF "1877."

SENT TO A DOCTOR'S WIFE.

The following remarkable contribution to science was received by the wife of one of our members and has been forwarded to this office.—EDITOR.

"Dear Madam

"I am in need of a saleslady in your city to sell my cold cure an entirely new Idea acts on pores of skin opening and letting cold out where it went in at. A one night cold cure strickly harmless 10 cures for 50 cents costs you 20 cents your profit 30 cents on each sale. 100 sales would make you $30.00 each cure only costs byer 5 cents but must by 50 cent package. This is used by taking a tablespoonfull to a pint of hot water sponging and holding on throat and breast often for 10 minutes then go to bed next morning cold is gone. Guaranteed.

"Write Dr. C. K. ———
——————— O."

REVIEW.

THE MODERN MATERIA MEDICA. Third edition, revised and enlarged. 282 pages. New York: *The Druggists Circular*, 100 William Street. 1912. Cloth, $1.00 net.

"Although it is less than two years since the second edition of the Modern Materia Medica was issued, the additions to the materia medica in that time have been so numerous as to make this revised list a necessity."—Preface to the Third Edition. This book is valuable in giving the chemical and physical properties, alleged therapeutic action, dosage, and incompatibles of the newer proprietary and nonproprietary remedies, together with the name and address of the manufacturer or proprietor. L. F. P.

A TEXT-BOOK OF MEDICAL DIAGNOSIS. By James M. Anders, M.D., Professor of the Theory and Practice of Medicine and of Clinical Medicine, and L. Napoleon Boston, M.D., Adjunct Professor of Medicine, Medico-Chirurgical College, Philadelphia. Octavo of 1195 pages, with 443 illustrations, 17 in colors. Philadelphia: W. B. Saunders Company, 1912. Cloth, $6.00 net; Half Morocco, $7.00 net.

In this large volume the writers have furnished the improved methods of recognizing diseased conditions in their varying phases. The information gained by following such works must enable the physician to treat much more successfully the patients under his care than could the doctor less familiar with the facts. Nearly every up-to-date method is carefully considered. S. B.

RETINOSCOPY (or Shadow Test) in the Determination of Refraction at One Meter Distance, with the Plane Mirror. By James Thorington, A.M., M.D., Professor of Diseases of the Eye in Philadelphia Polyclinic and College for Graduates in Medicine; Ophthalmic Surgeon to the Presbyterian Hospital; Ophthalmologist to the Elwyn and Vineland Training School for Feeble-minded Children. Sixth edition, revised and enlarged. Sixty-one illustrations, ten of which are colored. Philadelphia: P. Blakiston's Son and Company. Price $1.00.

This valuable little work of seventy-one pages is divided into six chapters, each of which is so concise, so simple and yet so clearly written that the student is ready for the next subject. One who will conscientiously practice with the author's schematic eye and follow the directions given should be able intelligently to use the shadow test as an objective method of estimating refractive errors. S.

THERAPEUTICS. By Dr. A. Darier, Paris. Translated by Sydney Stephenson, M.B., F.R.C.S., London, Late Honorary Secretary of the Ophthalmological Society, and edited by Walter L. Pyle, A.M., M.D., Philadelphia. Illustrated. Philadelphia: P. Blakiston's Son and Company. Price $4.00 net.

This book is one of seven books comprising the International System of Ophthalmic Practice and goes thoroughly into the therapeutics connected with eye work, especially the recent, yet tried, remedies and the indications for their use. It is most excellent in that the author does not lead one into idle fancy or bother and confuse one with untried and questionable remedies. The book is filled with facts and some quite original information which will well repay any practitioner, general or special, for the time and energy spent in carefully reading it. N. S. W.

HYDROTHERAPY. A Treatise on Hydrotherapy in General; Its Application to Special affections; the Technic or Processes Employed; and Use of Waters Internally. By Guy Hinsdale, A.M., M.D., Lecturer on Climatology, Medico-Chirurgical College, Philadelphia. Octavo of 466 pages, illustrated. Philadelphia: W. B. Saunders Company. Cloth, $3.50 net.

No subject is becoming prominent among the medical profession more rapidly than that of hydrotherapy. This method of treatment has been known since Hippocrates, but never before has it been so much in use as it is at the present time.

As the science exists to-day, supplemented by the use of modern apparatus, it is a powerful aid in therapeutics, rapidly growing in popularity as the knowledge of its technic becomes more widely diffused. This volume treats the subject very carefully and it is full of helpful information. S. B.

VETERINARY BACTERIOLOGY. A Treatise on the Bacteria, Yeasts, Moulds and Protozoa Pathogenic for Domestic Animals. By Robert Earle Buchanan, Ph.D., Professor of Bacteriology in the Iowa State College of Agriculture and Mechanic Arts, Division of Veterinary Medicine, Bacteriologist to the Iowa Agricultural Experiment Station. 516 pages, with 214 illustrations. Philadelphia: W. B. Saunders Company. Price $3.00.

The book before us appears to be a most excellent presentation of the essential facts with which a well-trained veterinarian should nowadays be familiar The facts are well selected and, as far as a rather careful reading has shown, the information is accurate and up to date. The book is divided into six sections, of which the first deals with the morphology, physiology, and classification of bacteria, the second with laboratory methods and technic, and the third with the relation of bacteria to disease. The last named includes an excellent, though brief, chapter on anaphylaxis. Section IV. deals with pathogenic bacteria, Section V. with pathogenic protozoa, while the final section is devoted to infectious diseases, the specific cause of which is as yet unknown. The book concludes with an excellent index. S. B.

PERSONAL HYGIENE AND PHYSICAL TRAINING FOR WOMEN. By Anna M. Galbraith, M.D., Fellow of the New York Academy of Medicine, 12 mo of 375 pages, with original illustrations. Philadelphia: W. B. Saunders Company. Cloth, $2.00 net.

The aim of this work has been to present in a clear and concise manner the fundamental physiological laws on which all personal hygiene is based; together with the practical, detailed directions for the proper development of the body and the training of the physical powers to their highest degree of efficiency by means of fresh air. tonic baths, proper food and clothing, gymnastic and outdoor exercise, so that the tissues will be placed in the best possible condition to resist disease. The book contains very excellent original illustrations of free exercises and classic dances. S. B.

SURGERY OF DEFORMITIES OF THE FACE. Including Cleft Palate. By John B. Roberts, A.M., M.D., Professor of Surgery in the Philadelphia Polyclinic, Surgeon to the Methodist Hospital; Formerly Assistant Eye and Ear Surgeon to the Children's Hospital, and Demonstrator of Anatomy in the Philadelphia Dental College. Illustrated with 273 figures. New York: William Wood and Company, 1912. Price $3.00.

The scope of this work is shown by giving the headings of the chapters and the number of pages devoted to each. The Development of Plastic Surgery, 8 pages; A Survey of the Anatomy of the Face (including the frontal and temporal regions of the cranium), 20 pages; Characteristics of Surgery of the Face, 5; Principles of Plastic Surgery of the Face, 10; Gunpowder and Local Discolorations, Tattooing, 11; Fistules, Fissures, Encephalocele, Atrophy and Hypertrophy, 14; Disfiguring Skin Diseases Requiring Surgical Treatment, 16; Deformities of the Mouth and Lips, 14; Harelip and Other Facial Clefts, 13; Cleft Palate, 29; Cheiloplastic Operations Not Connected with Harelip and Cleft Palate, 12; Deformities of the External Ear, 16; Deformities of the Nose, 26; Rhinoplasty, 20; Deformities of the Eyelids and Eyeball, 45; Index, 13.

The chapter on the Development of Plastic Surgery is most interesting and closes as follows "At the present time anesthesia permits our operative work to be prolonged; and our methods of restraining hemorrhage and preventing infection make the risk of operative treatment scarcely worthy of consideration. Under the opposite circumstances it must have taken men of great courage and mental force to have urged patients to undergo operations which were clearly procedures of convenience and not of necessity."

The author well says, "Medical men as a rule pay too little attention to the influence of a proper development of the teeth upon the shape of the mouth, chin and the lower face."

important cautions and valuable suggestions are found in each chapter. The illustrations are numerous and helpful. L. F. P.

BUREAU OF MEDICAL EDUCATION AND LICENSURE.

BUREAU OF MEDICAL EDUCATION AND LICENSURE.
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LIST OF QUESTIONS SUBMITTED BY THE BUREAU OF MEDICAL EDUCATION AND LICENSURE AT THE DECEMBER, 1912, EXAMINATIONS.

PHYSIOLOGY, PATHOLOGY, BACTERIOLOGY.

1. State what an examination of the blood would elicit in (*a*) anemias (primary, secondary and pernicious), and (*b*) leukemia; give in detail the technic in making the blood examination for these conditions.

2. Given a case of bronchopneumonia (catarrhal pneumonia), detail the local conditions, the etiology (in cases where the process is infectious) and state the effect on the normal functions of the lungs and metabolism.

3. Given a case of acute parenchymatous nephritis, name the pathological conditions present in the kidneys and state how these conditions would interfere with the normal functions of the kidney. Name the abnormal organic constituents that might be found in the urine in this disease.

4. Describe any one lesion of the liver showing how this lesion interferes with the normal functions of the liver and the effect of such interference upon digestion.

5. Describe the lesion in tabes dorsalis (locomotor ataxia), giving the usual cause and show how this lesion interferes with the normal functions of the cord.

6. Name two of the more usual diseases that may have as sequelæ endocarditis, resulting in an inorganic heart lesion; show how in the case of any one such organic heart lesion the normal functions of the heart may be interfered with.

7. Name and describe two pathological lesions which may have as a symptom, hematemesis. What information might an examination of the stomach contents give in differentiating the above conditions?

8. Differentiate as far as possible typhoid fever from appendicitis by means of laboratory tests.

9. In carcinoma of the tongue name the usual variety. Describe its gross and its microscopical appearance and give the avenue and usual point of metastasis.

10. In severe ulceration of the cornea what changes may occur in the structures involved and what disturbed function may be permanent? Name three microörganisms most frequently found and outline a method of detecting and differentiating them.

DIAGNOSIS, SYMPTOMATOLOGY, MEDICAL JURISPRUDENCE AND TOXICOLOGY.

1. Enumerate the symptoms and give the prognosis of cerebrospinal meningitis (spotted fever) in a child; differentiate this disease from tubercular meningitis.

2. Enumerate the symptoms of chronic interstitial nephritis; differentiate it from diabetes insipidus.

3. Enumerate the symptoms of cancer of the pylorus; differentiate it from two other diseases of this region, which may simulate it.

4. Enumerate the symptoms diagnostic of acute inflammatory rheumatism; differentiate it from tubercular joint disease.

5. Enumerate the typical symptoms of inherited syphilis, (*a*) symptoms at birth, (*b*) early symptoms after birth, (*c*) later symptoms.

6. Enumerate the symptoms of herpes zoster (shingles) and differentiate it from pemphigus.

7. Enumerate the symptoms of epidemic parotitis (mumps); name the complications and sequelæ, and differentiate it from one other condition which may resemble it.

8. State the symptoms of lead poisoning, and differentiate it from alcoholic paralysis.

9. Differentiate the toxemias of septicemia and uremia.

10. State briefly from a legal standpoint (American law), (*a*) what constitutes rape, (*b*) what constitutes indecent assault.

GYNECOLOGY AND OBSTETRICS, HYGIENE AND PREVENTIVE MEDICINE.

1. What are the dangers of abortion (criminal, during the first three months); in case of such abortion how may these dangers be overcome?

2. Given a pregnant woman (the first three months) of doubtful intrauterine (normal) or extrauterine origin, describe in detail how you would determine the correct diagnosis; in case it proved to be extrauterine pregnancy how would you treat the case? (Omit descriptions of operations.)

3. Should you be called upon to deliver a woman at full term of pregnancy, discuss the status of the use of the vaginal douche, the use of an anesthetic and the use of ergot.

4. Should a woman with a deformed pelvis (early in pregnancy) engage your services, by what various means might you aim to secure her a living child? In each instance (method) what would be the limits of measurements of the conjugata vera (true)?

5. If a woman in labor should suddenly develop the symptoms of collapse or shock, name three causes which may be responsible for the condition. How would you recognize the one present, and how would you manage the case in event of each of the three causes? (Omit description of operation.)

6. How would you deduce the presence of uterine cancer: (*a*) early (*b*) late in a patient? State the various methods of treat-

ment. (Omit descriptions of operations.)

7. What dangers may threaten the eyes of a newborn infant? Discuss the prophylaxis and treatment in such a case.

8. Given a room just vacated by a person suffering from a serious infectious disease, by what methods would you treat the room and how soon would you allow the room to be occupied? Describe the method in detail.

9. Should a house become contaminated with sewer gas, what are the dangers to inmates? What steps would free the house from the gas? Detail the means of preventing its recontamination.

10. What dangers attend the proximity of stables to dwellings? How are these dangers guarded against? What methods should attend the disposal of the manure?

ANATOMY AND SURGERY.

1. What are hemorrhoids? State varieties and the blood vessels involved in each. Outline two methods for the cure of hemorrhoids.

2. In fractures of the clavicle, state the anatomical reasons for the displacements of the fragments.

3. Enumerate the injuries that might be received from a fall upon the outstretched hand; outline the treatment of any two forms selected.

4. Enumerate the various forms of abdominal hernias; outline the technic for the correction of any one form, giving the surgical anatomy of part selected.

5. State the conditions that might require trephining the skull; outline the technic of this operation.

6. In the case of collections of fluids within the chest, outline two surgical methods for relief, with reasons for selecting each.

7. What are the early symptoms of hip joint disease? And what is their anatomical explanation?

8. Outline two methods for the cure of ulcer of the leg. State conditions that tend to aggravate or perpetuate ulcer of the leg.

9. Describe the ambulatory treatment of a sprained ankle.

10. Enumerate the various forms of fracture that might occur at or about the elbow joint; state the appropriate splints for three of the more usual forms of these fractures, with reasons for selecting each.

CHEMISTRY.

1. (*a*) Give the chemistry involved in the digestion of fats in the intestinal tract. (*b*) What is a fixed oil? (*c*) What is a volatile oil? (*d*) What is a glucoside? (*e*) What are ptomains?

2. (*a*) What is iodin? (*b*) From what source is it obtained? (*c*) Describe its physical appearance. (*d*) In the secretion of what gland of the human body is it found? (*e*) Describe a test indicating its presence in any medium.

3. (*a*) What is the composition of the atmosphere? (*b*) Give the average per cent. of each component ingredient. (*c*) How is that state of equilibrium maintained? (*d*) What would be the effect on human life confined in an atmosphere containing 15 per cent. of carbon dioxid? (*e*) How may carbon dioxid be detected in expired air?

4. Give a chemical antidote for the following substances: (*a*) Morphin, (*b*) nitric acid, (*c*) ammonia water, (*d*) arsenic, (*e*) oxalic acid.

5. Name and make diagrams of five different crystalline substances that may occur in urine.

THERAPEUTICS.

(*Medical Society of the State of Pennsylvania.*)

1. Give the average dose for adults and at least one therapeutic application of the following official preparations: (*a*) Liquor arseni et hydrargyri iodidi, (*b*) liquor ammonii acetatis, (*c*) liquor iodi compositus, (*d*) liquor potassii arsenitis, (*c*) liquor potassii hydroxidi.

2. Write two prescriptions in the metric system, each containing 120 c.c. Select only official or National Formulary remedies: Prescription No. 1, to meet the needs of a case of atonic dyspepsia. Prescription No. 2, a hypnotic for a case of delirium tremens. Give full directions as to dosage and frequency of administration.

3. Give the official name, together with dose, of two drugs of each of the following classes: (*a*) Anodynes, (*b*) expectorants, (*c*) heart stimulants, (*d*) alkaline laxatives, (*e*) emetics.

4. Outline the treatment you would employ in a case of acute articular rheumatism, covering every symptom, which, in your opinion, should receive attention.

5. Give the sources of the following remedies and describe their therapeutic action: (*a*) Cantharis, (*b*) apomorphinæ hydrochloridum, (*c*) fel bovis, (*d*) oleum morrhuæ, (*e*) hexamethylenamina.

(*Homeopathic Medical Society of Pennsylvania.*)

1. Give the indications for the use of ignatia amara in conditions of the nervous system; compare and contrast hyoscyamus and belladonna.

2. Compare and contrast drosera, rumex, and phosphorus in affections of the respiratory tract.

3. Give in detail the pathogenic action of arsenicum album upon the intestinal tract.

4. State the indications for the use of cantharides in conditions of the genitourinary tract; compare and contrast the use of terebinth and cannibis indica in similar conditions.

5. For what peculiar conditions, and for what subjective and objective symptoms has sepia succus been found a helpful remedy in the special disorders of the female.

(*Eclectic Medical Society of Pennsylvania.*)

1. Enumerate the conditions, in which you would prescribe echinacea: give its physiological action and specific indications.

2. What are the specific indications for arsenic; describe in detail its therapeutic action and uses; also its physiological action.

3. Give the specific indications for aconite, veratrum, gelsemium, belladonna and ergot. Detail the therapeutic uses of each one and dosage of same.

4. Name five remedies which are used in diseases of the female reproductive organs, and give the specific indications for each one.

5. State the therapeutic uses of ignatia and nux vomica, and give reasons for selecting each one.

SOCIETIES.

COLLEGE OF PHYSICIANS OF PHILADELPHIA.

Meeting of November 6, at 8 P.M., the president, Dr. George E. deSchweinitz, in the Chair.

Tic and Spasm of the Face. Their Differential Diagnosis. Effect of Alcoholic Injections. Dr. Alfred Gordon: In tic there is largely a mental element, while in spasm there is in the majority of cases a local irritation of the trunk of the facial nerve. In the genesis of tic movement, gradually from a normal reflex act the patient acquires the habit of repeating the same movement. There should be the training of the patient's will and of the muscles affected in tic by immobilizing the muscles at first, and later by movements in a slow and deliberate manner. There is the necessity of being patient and persistent in these exercises to obtain success. In spasm there is futility of internal medications and of all possible appliances including electricity. There is only one treatment for this affection; *viz.*, injections of alcohol into the nerve itself at its exit in the stylomastoid foramen.

Acute Unilateral Hematogenous Nephritis. Nephrectomy; Recovery. By Dr. David Riesman and Dr. George P. Muller.

Dr. Riesman: The case is reported of a woman who while in good health was seized with pain in the left flank and loin, and fever. There was a moderate leukocytosis, and blood and pus cells were present in the urine. Under treatment, which at first was expectant, the patient showed some improvement, but the fever returned and tenderness appeared in the costovertebral angle. At operation a small abscess was found just outside of the left kidney. The kidney itself showed a number of tiny abscesses, and was intensely congested and friable. It was removed. The urine reached an average of forty-four ounces a day during the first ten days after the operation. Bacteriologic examination of the pus showed *Staphylococcus pyogenes aureus*. Six weeks after leaving the hospital the patient began to have pain in the region of the lower jaw on the right side, and a swelling appeared. The *x*-ray showed a calculus in the submaxillary gland, which was subsequently found at operation. In the opinion of the authors the condition deserved to rank as a clinical entity. References to cases are given in which the diagnosis of appendicitis and gallstone disease had been made, operation showing a unilateral nephritis.

Dr. B. A. Thomas, in discussing: I am reminded of a case which I saw in Dr. Frazier's service of acute hematogenous unilateral nephritis with practically the identical symptomatology as presented in this case. An interesting feature in this patient was that she had had a number of weeks previous to the onset a chronic bronchitis, and it was my opportunity on this occasion to catheterize the ureters and to carry out a functional kidney test. The indigo-carmine test was used, and the dye was eliminated from both kidneys in seven minutes, from which the inference was drawn that the kidneys were functionally sufficient. In view of the pain and tenderness, however, catheterization of both sides was done and the bacillus of Friedländer was found to be the infecting organism. It has always seemed more advantageous to classify suppurative nephritis from the etiological standpoint. Some, however, claim that it is necessary for a mixed infection to exist in order to produce the suppurating condition. This is probably true when the colon bacillus is the primary invading organism, but certainly such is not the case when the infective bacterium is of many another species. It has, therefore, become common to classify suppurative inflammation of the kidney on the pathologico-anatomical basis. It is probable that in many cases the unilateral origin may be due to lowered resistance on the particular side due to traumatism. This may be due to a fall, blow or the result of a contortion of the body, such as overflexion or extension. Kuster claims that in the majority of cases the avenue of infection is urogenous. We know that in a small percentage it is lymphogenous. The present belief is to the effect that the large majority of cases are hematogenous in origin. Particularly is this so if we may exclude urethral obstruction as an etiological factor giving rise to interference with the urinary efflux.

Dr. John B. Roberts: Dr. Riesman's report calls to my mind a case seen about five years ago with Dr. J. Dutton Steele. The patient was a woman with swelling, pain, etc., in the left portion of the abdomen and loin with changes in the urine. We concluded there was suppurative inflammation of the one kidney. Dr. Willard, who agreed with our decision, skillfully cut into the kidney through the loin and emptied an abscess. Drainage was instituted and recovery ensued without a fistula and the patient lived for a number of years. In this case the husband had had previously a prostatectomy for enlarged prostate which had left him a vesico-rectal or urethro-rectal fistula. I jumped to the conclusion that this renal abscess was due to an ascending nephritis from cystitis in the husband. The symptoms were so similar to those cases of Dr. Brewer of New York and that of Dr. Riesman, that it is probable that the case was one of similar etiology. If it is true that the majority are hematogenous rather than urogenous, we must see them quite often.

Dr. James Tyson: I have never seen a case of acute unilateral hematogenous nephritis produced by the ordinary causes of a nephritis. We may have a certain number of cases which are embolic in their origin. The remaining cases, it seems to me, can be explained by reason of a greater virulence of the infecting agent, or by a greater vulnerability of one of the kidneys. The most that can be said of the unilateral hemorrhagic cases is that such a kidney has been invaded to the exclusion of its companion by a virulent toxic substance which acts like the causes of purpura and other hemorrhagic conditions of more superficial situations which we see in different parts of the body.

A Study of Empyema, with Special Reference to the Feasibility and Importance of Dependent Drainage. Dr. T. Turner Thomas: The result of a study of a formalin-hardened cadaver specimen of empyema and nine clinical cases is at variance with some of the generally accepted views. Acute empyemata are usually as much circumscribed and therefore encysted as any abdominal abscess, or the small so-called localized or encysted empyemata. The most important factor in preventing expansion of the lung is not adhesion between the chest wall and lung in its compressed position, but the pressure of the air admitted through the drainage opening. The superiority of the siphon method of drainage over the old method without suction has not been demonstrated in practice. The lung can not expand until the air admitted through the drainage opening is less than that coming through the trachea. The best drainage opening is a small one at the bottom of the empyemic cavity which in most cases will be at the lowest part of the normal pleural cavity, or in the eleventh interspace posteriorly, near the spine. For this operation the patient must lie on the opposite side or in the prone position. The empyema must not be allowed to close until its walls have become aseptic. Of the nine cases reported, five were of the massive type and four of the small or probably interlobar type. There were no deaths and none became chronic. They were all closed in less than the average time as determined by Schädler, fourteen and one half weeks, the longest being eleven weeks and the shortest five weeks. It is probably exceedingly rare to have an empyema close in less than four weeks.

PENNSYLVANIA SOCIETY FOR THE PREVENTION OF SOCIAL DISEASE.

Meeting of October 30, 1912, Dr. Talcott Williams in the Chair.

The Method of Ridding a City of Public Prostitution. Hon. John L. Hamery, former superintendent of police, Des Moines, Iowa: The fundamental principle of all reforms is the curbing of license instead of the formation of a partnership with and the sanctioning of lawlessness. Every official whose duty is to enforce the law should not throw the burden of the work upon the citizens. I think it is the duty of the citizens to give all the encouragement possible to the officers of the law, and it is right for city officials to inquire the sentiment of the citizens. I understand that the Philadelphia officials are trying to eliminate this evil to a certain extent. They are following the very same steps that I followed, except that they do not go on as fast. I eliminated the liquor at once. The liquor selling is the main support of the red-light district. I found that the inmates of the district were held in absolute bondage by a system of debts. If they attempted to go they would be brought back upon warrants. I remember the case of a girl living in the district six months who decided to quit the life, and as no one knew where she had been she went back home. She was in debt, an officer went to her home town, brought her back, and she signed a contract to go back into a certain house and pay ten dollars a month on each debt.

This infringement upon the rights of the foreign population is more openly carried out. I found that the men who told me I must not be so active were men who owned properties in the district. The law in Iowa is very plain about leasing houses. I took this and the evidence of bondage before the grand jury. I also gave the matter to the newspapers. I turned over copies of affidavits and also some of the receipts and leases, when the absolute bondage and awful conditions were revealed to the people. This was the first time I received any cooperation or sympathy. I now took heart and issued an order that all houses of prostitution, house of ill-fame and all other places of like character operating contrary to law, would not be allowed to remain open, as it was the purpose of the department to enforce the law as found upon the statute books. The police were ordered to notify all keepers of these houses that, if they wished to stay in Des Moines, they must report to the secretary of the Humane Society, giving their names and addresses and purpose of remaining in the city. Addresses were given those in need of women who would help them. I had an absolutely correct list of the names of the prostitutes in the city. The result was that in less than eight days women were leaving the city in great numbers. Those who remained in the city were constantly watched and were not allowed to carry on their business.

Many gratifying testimonials were given upon the work accomplished. One testimony of which I am very proud, which, if you will pardon me, I will read was from the Mayor of the city: "There is no question that the so-called red-light district has been driven out of the city. There is no such district. This plan brings much better results than segregation. The credit is due to Mr. Hamery, who took the advanced ground that the red-light district was not necessary."

PHILADELPHIA LARYNGOLOGICAL SOCIETY.

Meeting of November 19, 1912, Dr. Ross Hall Skillern in the Chair.

The Eustachian Tube in Chronic Aural Suppurations. Dr. Sidney Yankauer, New York: Performance of any operation with the highest degree of skill demands an excellent technic and a knowledge of the anatomy, not only as it is given in textbooks, but also as we see it in the living patient. Technical skill is not so much a matter of the sense of touch (although an operation, such as I am going to describe to-night, is performed by what is called the sense of touch) as it is a matter of muscular sensation in the muscles of the forearm and hand, and as these muscles are developed differently in each individual, the muscular sense can not be described. For this reason I have brought with me an anatomical specimen of the ear upon which I shall perform the operation.

In textbooks the eustachian tube is described as consisting of a cartilaginous and a bony portion, but from an anatomical, histological and clinical standpoint the cartilaginous portion belongs to the nasopharynx and the bony portion to the middle ear.

The sharp transition between the floor of the bony tube and the floor of the middle ear largely disappears when the anatomical specimen is viewed in the normal position. For this reason I have suggested that the bony portion of the tube should be called the pretympanum to correspond to the epitympanum and the hypotympanum (illustrated on the blackboard).

It has been shown by Siebermann, Bondy, Heath and others, that a limited number of cases of chronic aural suppuration can be cured by a conservative-radical operation, which aims to restore the middle ear to a normal condition, and which must be considered successful only when it is followed by closure of the perforation in the drum membrane, for if the drum membrane remains open, a discharge from the ear will invariably persist or recur from time to time. When the eustachian tube is open, perforation of the drum facilitates the passage of air from the nose into the ear during swallowing, blowing the nose, sneezing, coughing, etc. When the drum membrane is closed it is very difficult to blow particles of mucus or even to inject fluids into the ear for therapeutic purposes by blowing them through a catheter. It is the drum membrane which protects the middle ear from infection from the nasopharynx. Therefore, in all cases of chronic suppuration in which restoration of the drum membrane is impossible, the eustachian tube must be closed. This fact has long been recognized by otologists, and a radical operation is not considered complete, nor will it be successful except in a minority of cases, unless the eustachian tube is closed.

What the speaker has done has been to devise an instrument by which the eustachian tube can be closed without performing the radical operation, believing that thereby a considerable percentage of cases will be cured, and his experience with the closure of the tube in this manner during the past six years has been that 60 per cent. of all cases, as they present themselves in practice, are permanently cured by this method. The fact that only 60 per cent. are cured does not limit the indication for this operation to those cases in which it might be expected to accomplish a cure, for, even if it is known that the radical operation must subsequently be done, if the eustachian tube has previously been closed, the infection of the ear will be diminished, and the radical operation wound will heal more kindly. If this were an operation which required a general anesthesia, and was followed by a period of rest in bed one would hesitate, perhaps, to advise it in cases which seemed to be unsuitable for it, but as it is performed painlessly under local anesthesia and without unpleasant after effects, it is justifiable in all cases.

The healing of any suppurative process requires the removal of the infectious agent, the bacteria, and the removal of the products of disease, the dead tissue, and the secretions. Moreover, the return of the bacteria must be prevented permanently, and the removal of the diseased products must be made continuous by perfect drainage. As the original source of infection in aural suppuration is the nasopharynx, and as this region can not be kept permanently free from infectious agencies, the closure of the eustachian tube is indispensable for the prevention of reinfection.

The fact that a certain number of cases of chronic suppuration heal spontaneously is evidence that efficient drainage can be established by nature, and the fact that cases spontaneously healed almost invariably show a sclerosis of the mastoid bone, and that in many of them the ossicles have disappeared, proves that spontaneous healing occurs even when the bone has been profoundly diseased. By a study of these cases we obtain our indications for the conservative treatment of the disease. Cases in which the amount of disease in the middle ear and mastoid cells is slight get well quickest after closing the eustachian tube. Cases in which the drainage from the middle ear and mastoid cells is inefficient will never get well until such drainage is established by surgical interference. In my own cases the time required to establish healing after closing the tube has varied from a few weeks to eighteen months; the average of all cases being six months.

The anesthesia for the operation is produced by making an application of 20 per cent. cocain, containing a little adrenalin, to the middle ear cavity and to the pretympanum by means of the ordinary applicators. The pharyngeal side of the isthmus must also be anesthetized by applying the same solution by means of the eustachian applicator through the catheter.

Closure of the tube is not always accomplished after the first curetment. The reasons for such failures are, first, inefficient curetment; second, adhesions of various kinds in the middle ear (diagrams made on blackboard); third, suppuration within the canal for the tensor tympani muscle. The canal can be opened and the muscle scraped out by means of the same curet.

It is sometimes necessary to remove the ossicles to obtain healing. The indications for ossiculectomy are necrosis of the ossicles, necrosis of the outer attic wall, polypi originating in the attic, and the removal of the adhesions referred to previously. After organic atresia of the eustachian tube has been established the ear is entirely independent of any changes, acute or chronic, which may take place in the nasopharynx. The cure of the middle ear suppuration has been unaffected by the attacks of acute rhinitis, acute suppuration of the accessory sinuses, ozena, nasopolypi, etc.

The after treatment is the same as the usual conservative treatment of middle-ear suppuration. When organic atresia of the isthmus has been successfully accomplished certain important chances of atrophic nature takes place in the middle ear. Granulation tissue shrinks rapidly and polypi lose their tendency to recur, adhesions which have been cut do not unite again, the inner tympanic wall becomes pale, dry and leathery in appearance, and the perforation of the drum membrane never becomes smaller, but on the contrary, grows larger, so that after a few months all that is left of the drum membrane is a narrow white band attached in the annulus tympanicus. (Demonstration of operation on anatomical specimen.)

Dr. E. B. Gleason, in discussion: Dr. Yankauer has demonstrated a method of closing the eustachian tube which is probably feasible and safe in the majority of instances, but proximity of carotid should be borne in mind. In cases where I have inadvertently torn the lateral sinus, the rent has been caused by a spicula of bone and not by an instrument. It would seem that when the artery was weakened, as the result of syphilis, or when the bone was necrosed or simply thin and fragile that there should be danger of wounding the carotid by this method of operating.

It is a well-known fact that within the nose synechia occur from simple contact of inflamed and swollen mucous surfaces. Probably the epithelioma disappears by pressure necrosis under such circumstances and the granulating surfaces then fuse together. The same thing sometimes occurs within the tympanum and probably also within the eustachian tube, judging by the frequency of strictures seen in anatomical specimens when the drum had been destroyed by disease. When Neumann was demonstrating his method of performing the radical mastoid operation in Philadelphia a few years ago, I asked him what he did when he failed to close the tube. He answered that he first tried strong solutions of silver nitrate and that often this procedure was successful.

I should like to ask Dr. Yankauer if, after the closure of the tube, the median wall of the tympanum finally became, as it is sometimes called, "epidermized" with consequent great impairment of hearing, as after the radical operation.

Dr. G. W. Mackenzie: Those of us who have heard both Mr. Heath, last summer at Boston, and Dr. Yankauer here to-night can not help but compare the attitude of these two authorities on the subject of chronic aural suppuration. Mr. Heath claims to be able to cure practically all cases of chronic middle-ear suppuration, by the route of the mastoid antrum, and with excellent results as to hearing; Dr. Yankauer modestly claims to be able to cure a fair percentage by the opposite route, *i. e.* through the eustachian tube. Dr. Yankauer, in a concise and definite manner, has pointed out the etiology and pathology of the factors which make for chronicity in cases of middle-ear suppuration. It is my belief that there is a definite place for each of these operations, the choice of which depends upon the diagnosis, and only that diagnosis, which comprehends every feature of the suppuration. *i. e.* the location and character of the complication, or complications which tend to make the suppuration chronic.

I believe that Dr. Yankauer has hit upon an excellent idea for treatment of a great class of chronic suppurations, and deserves every possible credit for his masterly efforts. I would like to ask him if, in those cases of closure of the eustachian tube orifice with new-formed membrane, he would advise his method of operation. It is in these cases that we not infrequently find associated cholesteatoma. I would also like to ask if he has ever tried infiltration anesthesia of the osseous external canal as practiced successfully by Neumann and others since, in operations upon the middle ear, notably ossiculectomy.

Dr. G. M. Coates: I have been much interested in the work of Dr. Yankauer on the eustachian tube, and have listened to his paper with much profit. We all know that a radical mastoid operation will fail of complete success in giving the patient a dry ear if the eustachian tube remains patent, and therefore we endeavor to close it permanently at the time of the operation, sometimes successfully, and sometimes with partial or complete failure. In these cases the Yankauer operation gives us a chance to complete the cure at a later date. Following the same line of study it is evident that many of our cases of chronic suppurative otitis media, where there is not too much caries and the mastoid is not seriously involved, may be cured by closure of the tube without resorting to the radical operation, and this is a condition very much to be desired. I have not used the Yankauer instruments, but with improvised ones have a number of times succeeded in effecting a permanent closure of the tube and a cure of the middle-ear disease. The eustachian tube is of very little, if any, value where the membrana tympani has a large perforation, its only function being then as an accessory aid to drainage. The hearing of these patients, in my experience, may be improved by operation, but is frequently made worse. A dry ear has frequently less hearing power than when it was discharging freely.

Dr. Yankauer, closing: Dr. Gleason's questions: We obtain a dry canal with perfectly leathery appearance. Owing to its toughness and elasticity it would be difficult to injure the carotid artery, even though the canal be necrosed. No accidents have occurred in any of my cases. Dr. Allport uses a burr and engine and has never known an injury to the artery. Hearing is tested only by speech prior to operation, after thorough cleansing and drying, and after operation. At this time there is little change in hearing, no diminution. In two cases there was decided improvement, not the result of curetting, but from cutting adhesions of ossicles.

When drum membrane has been perforated for many years, there are adhesions of ossicles and sound is conveyed by bone and round window, and when latter is obstructed by adhesions, there are no low notes.

Reaction following operation includes swelling, discharge from ear, first thin and then mucopurulent, finally watery mucous. After weeks, secretions usually disappear.

All cases had been under treatment at our own or other clinics for years. In one case of oral polyps, after clearing and closing, tube became dry and has so remained. No matter what the nasal condition, colds, influenza, polyps, etc., once the tube is closed the ear never becomes involved. Patients do not get immediately well, average time six months; one case not until a year or longer; time depends on condition of drainage and extent of disease. If there is small portion of middle-ear disease, cure is rapid; if necrosis of ossicles, then longer; if necrosis of mastoid and sequestræ, never until radical mastoid operation. Help nature by ossiculectomy, remove outer wall to favor drainage, even open antrum through external canal.

In answer to Dr. Mackenzie's question, I have never tried the infiltration anesthesia.

FREDERIC M. STROUSE, Reporter.

PHILADELPHIA POLYCLINIC OPHTHALMIC SOCIETY.

Meeting of November 14, Dr. Wendell Reber in the Chair.

Treatment of Disorders of the Lacrymal Apparatus. Dr. W. W. Watson: Varied disorders of the lacrymal apparatus extend from a simple inflammation of the lacrymal gland which is rare (a dacryoadenitis) to suppurating disturbances of the sac and nasolacrymal tubes of a profound type. Treatment therefore must be of such a character as to meet these various requirements to combat progress of the disease, successfully.

Obstructions of the nasolacrymal duct are usually situated at the commencement of the canal or at its opening into the nose. A method of ascertaining if there is a stenosis of the nasolacrymal passage is to introduce into the canaliculus of the needle of an Anel's syringe as far as the sac and with it inject a small quantity of salt solution stained with fluorescein. If the canal is patulous the colored fluid will present at the nose. Absolute proof, however, is the passage of a probe and slitting of the canaliculus. Treatment by sounds must be kept up with a gradual increase in their size until a Bowman's No. 4, at least, passes with ease. The probe should be introduced every few days if patient can come for treatment that often, but if not the wearing of a style is advocated for a short time. If there is a continual recurring tumefaction in the nose, resection of the inferior turbinate is indicated.

Treatment of chronic dacryocystitis is directed to the underlying nasal cause and the extirpation of the sac. Preservation of the sac is usually impossible if bony strictures are present and early removal should always be considered in the laboring classes, who have little time to spare. In acute dacryocystitis developing rapidly into an abscess, treatment should be directed toward prevention of abscess formation. Restore the lumen of the duct by sounds and if possible induce the fistula to close, if the cutaneous wall has had to be incised for abscess.

Dr. Posey, in discussing: My own practice differs somewhat from that mentioned by Dr. Watson. In acute dacryocystitis it is my practice to place the patient under ether, and to evacuate the pus from the sac by slitting up the lower canaliculus. The stricture in the duct is then overcome by probing and a style introduced to keep the duct patulous. Healing is prompt and this method has the advantage of not only relieving the acute condition but also of correcting the cause at the same time. It is essential that the short end of the style should rest securely in the groove of the incised lower canaliculus, for cosmetic reasons and to prevent the incision from healing. The style may be left *in situ* for months. Never syringe after probing, on account of the danger of some of the fluid getting into the soft tissue of the orbit through a rent in the mucous membrane.

Dr. Posey deprecated the use of silver nitrate or other strong caustics in syringing and said that he had once seen optic atrophy arise (in the case of a colleague) from orbital cellulitis excited by syringing with a one per cent. solution of silver nitrate, the solution gaining access to the tissues of the orbit in consequence of a false passage made with the tip of the syringe. In all cases where the mucous membrane of the sac was secreting pus and in all cases of mucocele, he advised the immediate removal of the sac. He had never removed a portion of the lacrymal gland, and cited a case occurring in the practice of a colleague in which serious corneal complications arose following the excision of the palpebral portion of the gland. He cautioned against the employment of Weber's canaliculus knives with curved tips. In many cases of stillicidium the stricture is in the canaliculus, near its entrance into the sac, and unless a straight probe-pointed knife be used, the surgeon will not succeed in entering the sac in such cases but will merely slit up the canaliculus.

Dr. Harbridge: Following a discussion of this subject last season before this society, I selected three patients with lacrymal trouble in which there was present a profuse pus discharge. Each was thoroughly cleaned and a probe passed once. Subsequent treatment consisted of washing with a boracic acid solution followed by a very weak iodin solution (few drops of Lugol's solution). The pus disappeared and in its place there has persisted a moderate mucous discharge. One in which the washing was withheld for a time promptly returned to a pus discharge. It is likely that removal of the sac will be the only means which will afford entire relief.

Dr. Kistler: I would like to say something in regard to the lead style. Dr. Posey remarked that he leaves the style in for six months without taking it out; also that it needs no cleaning. I have been troubled with concretions forming at the root of the style. If I had not removed them at that time they would have been completely eaten off. I have had this experience two or three times. In one case particularly the wire was almost entirely eaten off. In the other two cases the wire was covered with a corrosion that was hard to remove.

Dr. Peter: I have had similar experiences of the kind Dr. Kistler just spoke of. I find that leaden styles will have a certain amount of corrosion on them. For that reason I have been in the habit of removing these styles once in three weeks and often I find I have to put in new styles.

Dr. Posey said there was always some corrosion at the nasal end of the styles, but that he had never seen it give rise to any trouble. The styles should not be made of pure lead, but of an amalgam of lead and zinc. He had removed styles which had remained *in situ* two years or more without giving rise to irritation. He had once removed a piece of gold wire from a man's nose, which had been inserted into the duct twenty-eight years previously.

Dr. Reber: Some years ago Dr. Sweet removed with great difficulty a style. that had been in the duct for seven or eight years. Personally I do not see why the styles should not be removed oftener but it seems to me it would be preferable to have the sac removed. In the matter of acute dacryocystitis I support Dr. Posey. I saw a young man yesterday, twenty years of age, who has been sadly overtreated. He is wearing a very poor correction which may have something to do with the existing condition. The anterior end of the inferior turbinate on the affected side was edematous and obstructing the valvelike opening at the lower end of the lacrymal nasal duct. Removal of the anterior end of the inferior turbinate body entirely relieved the epiphora. I agree with Dr. Posey that where there is mucocele or dacryocystitis extirpation is the best procedure.

Senile Cataract Extraction Followed by Certain Complications. Dr. D. Forest Harbridge, referring to the operation for the extraction of senile cataract in the very old, spoke of the subsequent disaster which frequently occurs during convalescence or later, influencing primarily the utility of the eye and very likely secondarily the life of the patient. The secondary effect is to be qualified by the expression "very likely" for the reason that it is difficult for a physician to estimate accurately the resistive and recuperative powers of the old and infirm patient. The greatest proportion of senile cataract patients coming to operation are between the ages of sixty and seventy-five years, a very small minority of operations occurring above the age of eighty years.

The writer recalled eight operations upon patients eighty years or above which strongly impressed him by the severity of the operation upon the individual's subsequent life history. In certain instances the extreme shock lasting for months finally terminated in death, two patients dying within a year from cerebral hemorrhage; one patient (diabetic) dying within three days from an uncontrolled vomiting. In two (same patient), one eye was lost as result of injury while delirious, really useful vision of remaining eye persisting for three years; one extremely nervous patient squeezed lids at time of first dressing, causing wound to open, necessitating further attention, patient remaining profoundly prostrated for some two years; one, mildly delirious, removed her bandage three times the first day, allowed to sit up the following day, returned home on the ninth day with a perfect result; one, complicated by premature extrusion of the lens followed by fluid vitreous; twelve hours later patient developed acute mania; wound healed kindly and at the present writing (one month), the patient remains so profoundly shocked that life is in imminent danger. In all there was present mental disorder, from a mild delirium to acute mania and in only one can the result be considered entirely satisfactory.

Dr. Harbridge does not take the above as contraindicating the operation under certain circumstances, but he does feel that "very likely" the shock lessens the length of life in many patients. It should therefore be taken as a warning not to be too aggressive, for if these old patients can get about with a fair degree of comfort it is better not to interfere.

Dr. Posey, in discussing: Dr. Harbridge has done well to point out that the operation for cataract is a great shock to the patient. At least ten per cent. of those operated on suffer temporary mental aberration. It was held by some that the delirium was due to the atropin which was dropped in the eye subsequent to the operation, but we know that this is not true, because delirium has been observed when atropin was not used. Schmidt-Rimpler thought that it was due to the exclusion of mental impressions in consequence of the bandaging of both eyes. But the delirium has occurred when no bandage was used. A French observer, Martin, thought it was due to autointoxication, probably from retention of urine, but this may be disproved by our own experience at the Wills Hospital, where it is the rule to clean out the bowels before the operation, to keep the diet low for twenty-four to twenty-eight hours and to catheterize the patient if the urine is not voided. Dr. Kipp claimed that homesickness was the cause of the delirium, but we have seen these patients delirious when operated upon in their own homes. In my opinion, the delirium is due to the excessive preoccupation of the patient both before and after operation and to various senile vascular changes in the brain. In most cases the delirium passed away in ten days to two weeks, but in those predisposed to insanity chronic mania may ensue. Dr. Posey said that the operation for the removal of cataract should be undertaken in very old subjects only when vision was so low that it no longer permitted the sufferer to get about. In a few cases, death ensued shortly after the operation from pneumonia or apoplexy and he was convinced from his own experience that the shock of the operation frequently hastened death. Many of his aged patients who had been successfully operated upon died within a year of the operation.

Dr. Reber: What Dr. Posey has said just about covers all there is to this matter. The whole subject is an intensely interesting one to me. I feel exactly as Dr. Posey does and I do not often advise people over eighty years of age to have an operation. There is almost always so much psychic excitement that I always advise a preliminary iridectomy in younger people. In one of my cases pneumonia developed fulminantly in a very fat man, sixty-one years of age. He was perfectly well the evening of the fourth day, and died in about an hour. I believe we should not promise the patient or the family too much. My usual statement is that if the patient can get about by themselves it is all that can reasonably be expected.

Dr. Zentmayer reported that he had a patient die after a cataract operation. He had been up and about but was found dead in bed. He was very feeble. His mentality was not of the best but no apparent cause was found for his death.

Dr. Harbridge, closing: Regarding the question of a preliminary iridectomy, I rather favor this method as possessing certain advantages, in that it affords in a measure an opportunity to know how both the patient and his tissues will withstand such interference.

D. Forest Harbridge, Secretary.

WILLS HOSPITAL OPHTHALMIC SOCIETY

Meeting of October 8, Dr. William Zentmayer, Chairman.

Dislocation of the Lens. Dr. S. D. Risley presented two patients with partial dislocation of the lens. The first was a child five years of age in whom the only symptom was a vertically dilated, ovoid or egg-shaped pupil, the expansion being downward. The lower part of the iris was fixed, while the upper part still responded to light. While studying the eye with an electric ophthalmoscope, the head was tilted strongly backward when the pupil suddenly resumed its normal shape and position, but remained slightly dilated. After a week, the slight dilatation remained with an occasional tendency to resume the ovoid form. The second was a man aged forty, who had received a blow with the handle of a heavy tool on the nasal aspect of the right supra-orbital ridge. The right eye also had evidently been struck through the closed lid. There was pain, deep injection and a dilated pupil. The lens was transparent, but its nasal border could be seen by daylight, the entire body of the lens having been forced toward the temporal side. A crescent could readily be seen between its nasal equator and the rim of the dilated pupil. The vitreous was filled with floating debris. The iris was not tremulous. Under treatment and rest, in ten days the dislocated lens could no longer be demonstrated but the vitreous was too cloudy to permit any study of the fundus and vision was reduced to counting fingers doubtfully.

Dr. Risley suggested that the outward dislocation of the lens and the condition of the vitreous might be due to a detachment of the tissues from the sclera in the ciliary region, at the point where the blow must have been received. Under these conditions there would be a filling up of the suprachoroidal space, the subsequent absorption of which accounts for the replacement of the lens. It was not probable that there had been any extensive rupture of the suspensory ligament.

Dr. Posey spoke of the seriousness attending any form of dislocation of the lens. Vision is almost always greatly interfered with and in most cases the future integrity of the eye is endangered. He enumerated some of the sequels of dislocation of the lens, and dwelt upon the difficulty attending the removal of the lens when once it had broken away from its attachment to the ciliary body.

A Case of Unusual Choroidal Atrophy. Dr. Burton Chance presented a case showing two large perfectly circular areas of choroidal atrophy, on a line with the optic disk and embraced within the span of the large temporal vessels. The areas were clear-cut disks with pigmented borders; they were too large to be compared to macular "holes," neither had they the attributes of colobomata. The rest of the fundus was healthy. It is probable that the condition was the result of antenatal disease.

Intraocular Neoplasm. Dr. William Campbell Posey exhibited a specimen of intraocular tumor which had perforated the globe below and had invaded the tissues of the orbit in a woman seventy-two years of age. Traumatism was denied, the only history obtainable being one of progressive blindness without pain or inflammatory symptoms until of recent date, when the spontaneous rupture of the globe and the formation of a cystoid cicatrix at the lower and outer corneal limbus occasioned some discomfort and irritation. The extraocular portion of the neoplasm which had been removed from the eye some months before, was of a mushroom shape and was apparently connected with the sclera by a broad round attachment. The mass was hard and smooth and limited by a dense capsule.

Dr. Posey spoke at some length of the usual course of intraocular tumors and of the necessity of early enucleation to preserve life, once the diagnosis is made. He referred to a case he had seen on the last clinic day, of probable intraocular sarcoma, though a fully developed cataract prevented a view of the fundus. He spoke of the aid afforded by transillumination in making the diagnosis.

J. Milton Griscom, Secretary.

COUNTY SOCIETY REPORTS.

Reports should be necessarily brief presentations of scientific facts and professional news. To insure publication these should be received within fifteen days from date of meeting, although it is sometimes necessary to hold over some of them for want of room.

ALLEGHENY—November.

The November meeting of the Allegheny County Medical Society was a rather stormy one because of more or less political activity of the progressive variety. For years the president has appointed a nominating committee which nominated the men for the various offices, although additional nominations could be made by any twenty members signing the proper petition. Under this system, in spite of its being admitted to be subject to abuse, the society has prospered in every way and good and deserving men have been honored. However, a feeling of unrest and dissatisfaction has always existed among a few and grown lately among many, and at this meeting, which taxed the capacity of the room, the by-laws were amended. Hereafter, the nominating committee will not be appointed by the president, but elected by the society; and further nominations may be made at the petition of any nine members. There was some feeling shown in the various discussions, but the differences of opinion were more apparent than real among the majority, although, as is natural perhaps, a few had evidently allowed fancied abuses and foreordained duty to obsess them. At any rate, to the credit of the society, the business meeting ended happily with general satisfaction.

The scientific program was of unusual merit, for we had with us Dr. Scudder of Boston, who delivered an address with lantern demonstrations on pyloric obstruction in infants. He spoke of the necessity of being on the watch for this condition, as it is so frequently overlooked. Pathologically, the obstruction is due to a marked hypertrophy of the circular fibers producing a narrowed lumen. This was illustrated beautifully by a preserved specimen and by several lantern slides of microscopical sections. The most prominent clinical symptoms are persistent vomiting, increased peristalsis, wasting, and palpable tumor. The prognosis without operation is grave, as in most cases the patients die of starvation. Some patients may recover but with impaired digestion and nutrition through life. From a diagnostic standpoint, one must distinguish the spasmodic cases, which are not the same at all, although some are severe and may cause death. Examination under an anesthetic will show the absence of tumor. The treatment of true cases of pyloric stenosis is surgical; medical treatment is wrong as it can not remove the primary cause, and of cases so treated the mortality is eighty to ninety per cent. The objections in the past to surgical treatment raised by the medical and lay mind are now unwarranted. The results of experience at present establish the following principles: Anatomically and pathologically, surgical treatment is correct; such treatment brings immediate response; the operation is not harmful, and may be a pyloroplasty or a gastrojejunostomy, the latter preferably; operation does not result in a disturbance of function afterward; the tumor persists after operation but all food passes through the new opening; the mortality once high has as operators became more skillful steadily decreased, one group of figures indicating a mortality of only sixteen per cent. Dr. Scudder advised as early a diagnosis as possible, and surgical treatment as soon as the diagnosis is made. Postoperative feeding should be entrusted to the pediatrist.

George J. Wright, Reporter.

BEAVER—December.

The Beaver County Medical Society held its regular meeting in Rochester, December 12, at 3:30 p.m. There were seventeen members present, and the annual election of officers was held. On report of the banquet committee it was decided to hold the annual banquet in January, with the wives and friends of the members, as guests.

A paper on "Diabetes," the subject of the meeting, was read by Dr. S. H. Piersol. The paper showed much collateral reading on the subject and his conclusion was that there was no curative treatment for diabetes if diagnosis was correct and that diet was only of limited benefit in treatment of the disease. He laid particular stress on the many proprietary remedies on the market, all of which claim to cure, and warned physicians against their use without thorough investigation. A general discussion followed, the majority of the members reporting their cases as fatal, but the general expression seemed to lay stress on certain treatments making the process of the disease slower and the patient more comfortable. The medicinal treatment reported favorably seemed to be strychnin, arsenic, opium, codein, etc. Special mention was made of simple glycosuria being diagnosed and cured when not distinguished from diabetes and of the rapidly fatal type prevailing in very young children.

Margaret I. Cornelius, Reporter.

BERKS—December.

The Berks County Medical Society held its regular meeting, December 10, in the new Medical Hall, with President Saul and twenty-two members present.

The annual reports of the officers were received also those of the special committees. The Committee on New Home reported progress; one part of the building is now a handsomely furnished hall while the other part is being renovated. The annual election of officers was held.

Dr. Saul, the retiring president, gave a review of the year's work. The year's program included a number of excellent papers read by some of the members, among them being a symposium on diabetes mellitus; "Early Recognition of Tuberculosis in Children," by Dr. W. C. Hollopeter, Philadelphia; moving pictures illustrating the various forms of nervous diseases, by Dr. T. H. Weisenburg, Philadelphia; "The Röntgen Ray in the Diagnosis of Obscure Conditions of the Chest and Abdomen," by Dr. G. E. Pfahler, Philadelphia; "Obstetrics," by Dr. Richard Norris, Philadelphia; and "Former Practioners of Berks County Whom I Have Known," by Dr. James Tyson, Philadelphia.

The November meeting was given to the discussion of gastric diseases. Thursday evening, November 21, the society gave a smoker in honor of five men who served as presidents of the society more than twenty-five years ago. The men thus honored were Drs. J. Y. Shearer, S. L. Kurtz, C. G. Loose, W. F. Muhlenberg, W. E. Hunsberger. There were thirty-eight members present who enjoyed hearing them relate some reminiscences of the past. A spirit of sociability and freedom prevailed and all felt that the affair was a decided success and warranted a repetition at some future date.

Clara Shetter-Keiser, Reporter.

BLAIR—November.

The Blair County Medical Society met in the Elks' Home, November 26, at 7 P.M. Vice President Maglaughlin presided. There were fifty physicians present to enjoy the banquet which was one of the best ever enjoyed by the society, and was the most largely attended. Officers were elected for the ensuing year.

Dr. B. Franklin Royer of Harrisburg addressed the society on the work done by the Department of Health to suppress tuberculosis. The address was much appreciated. Dr. John A. Roddy, of Jefferson Medical College, addressed the society on "A Review of the Literature for and against the Sterilization of the Feeble Minded." Dr. Roddy's subject was a timely one and aroused considerable discussion. The society during the serving of the menu was very pleasantly entertained by vocal selections from Walter McEldowney and D. Eugene Wentel.

Charles W. Delaney, Reporter.

CRAWFORD—December.

The meeting of the Crawford County Medical Society was held in Meadville, December 4, with ten members present.

Dr. D. G. Snodgrass reported his observations and experience in twenty-five cases of syphilis treated with salvarsan and neosalvarsan. He generally used the intracellular method and had had no abscesses although some soreness had been experienced by some of the patients. Results were satisfactory in all cases but one. This case was of eight years' standing; patient had nephritis and almost total blindness. Eight grains of salvarsan were given, followed by collapse of patient who was revived after some effort. The general health now is good with some improvement in the sight. Another patient, a male twenty-five years old, applied for treatment. It was learned that his wife was five months' pregnant. Baby at birth appeared all right but at three weeks developed a rash and later mucous patches; baby was given one grain of salvarsan when three and one half months old with a complete disappearance of symptoms. Dr. Snodgrass then gave a detailed history of several cases, which pointed out different interesting features and a rapid disappearance of the most serious symptoms in a short time. He favors neosalvarsan to the older remedy.

Dr. Hamaker reported a case of cardiac fibrillation; also several cases of vesical hemorrhage in which the blood clots were removed by the use of a soft catheter and an ear syringe to create suction.

Cornelius C. Laffer, Reporter.

FRANKLIN—November.

The meeting of the Medical Society of Franklin County was held in the Court House, Chambersburg, November 19, at 1:30 P.M., and was presided over by President Emmert. Twenty-one members and Dr. Wroth of Hagerstown, Md., were present. A letter was read from Dr. Johnston McLanahan thanking the society for kindness in sending a floral tribute on the occasion of the funeral of his wife. The resolution passed by the House of Delegates at the Scranton Session, in regard to the appointment of a committee to act with the state society Committee on Medical Advertising, was discussed by Secretary Coffman, and on motion the chair named Drs. Coffman, Gilland and Hoover as the committee.

As per request of the Commission on Cancer of the state society, this meeting was given over to the study of cancer. Dr. Peregrine Wroth, Hagerstown, Md., by request, read a paper on "Cancer of the Breast," discussing the condition and the importance of removing all neoplasms or growths at their first appearance. It is of the greatest importance whether these growths be removed by a buttonhole or a manhole operation. In examining cases, especially where growths of any kind are possible, strip the patient to the waist and make a complete examination of the patient both sitting and lying. These growths are more readily detected when the patient is lying than in the sitting position. Dr. Charles F. Palmer read a paper on the "Diagnosis of Cancer." Dr. W. F. Skinner discussed the "Treatment of Cancer."

These subjects were well covered and generally discussed by the members present. Dr. Kempter told of his habit of instructing his patients and clientele regarding the importance of early attention to lumps of the breast, urging every female over thirty-five with unusual menstrual flow to consult a physician at once. Dr. Miller of Mason and Dixon spoke of the importance of waging a war against quackery by educating the people as to the propriety of having the family physician know of these suspicious conditions at their first appearance. The delay is generally the result of misunderstanding on the part of the individual. The symposium and discussion indicated that the duty of each physician is to extend the education regarding the importance of the earliest attention to these growths, that later become cancerous, and of the great gain in prospective cure when early attention is given. Each member was urged to aid in the propaganda among his clientele regarding this disease.

JOHN J. COFFMAN, Reporter.

GREENE—NOVEMBER.

The meeting of the Greene County Medical Society was held in the parlors of Waynesburg Hospital, November 26. Officers were elected for the coming year, after which a paper was read by Dr. T. L. Blair on "Etiology and the Proper Management of Acute Contagious Conjunctivitis," and discussed by Drs. G. M. Scott, L. F. Milliken, J. A. Knox, and T. B. Hill. Dr. T. B. Hill talked on "Recent Advances in Sanitation and Dietetics in Infancy and Childhood."

The section on page 151 of the November JOURNAL was read, and unanimously approved. We have faith in its purpose and affirm our loyalty to the same. Dues for the coming year were paid by Drs. H. C. Scott, T. L. Blair, T. N. Millikin, T. B. Hill and R. E. Brock.

The society adjourned to meet again at the hospital, December 24, for the presentation of the following program: Etiology and Pathology of Acute Lobar Pneumonia, by Dr. J. R. Day; Clinical History and Diagnosis, by Dr. F. S. Ullom; Prognosis and Treatment, by Dr. T. N. Millikin.

R. E. BROCK, Secretary.

LANCASTER—NOVEMBER, DECEMBER.

The meeting of the Lancaster City and County Medical Society was held November 11, with President Rohrer and thirty-five members present.

Dr. Appel reported a case of gunshot wound of the abdomen perforating both walls of the stomach and the mesocolon, with recovery. A general discussion of anaphylaxis occurred in which a number of physicians gave their views. The concensus of opinion was that urticaria and the usual train of symptoms followed an immunizing as well as the curative dose. Although the rash usually appeared on the tenth to twelfth day it could occur as early as an hour after the injection.

Dr. J. L. Atlee thought it advisable to give large doses of antitoxin at frequent intervals until the desired result was obtained and thus lessen the tendency toward anaphylaxis. He raised the interesting question of whether since anaphylaxis is the result of absorption of an animal proteid it might not occur in sympathetic ophthalmia and Bright's disease.

The regular meeting of the Lancaster City and County Medical Society was held December 4, with President Rohrer and fifty members present.

Moving picture illustrations of "Nervous Diseases" were presented by Dr. T. H. Weisenburg of Philadelphia. A case of Huntington's chorea was first shown; a case of ordinary chorea, one of paralytic chorea and several cases of tic were presented in rapid succession. An especially good case of tic of the tongue was presented as well as tic of the abdominal wall. The typical halting gait of astasia abasia was next shown. The next case was one of multiple sclerosis; the intention tremors, good natured facies, spastic gait, even the scanning speech were illustrated. Next were several interesting cases of tabes. A "fit" of Jacksonian epilepsy was shown in its entirety; this particular spasm began in right lower face, rapidly including right eyelids, right forehead, right side of neck and right arm. Several epileptics were featured illustrating the sexual orgasm which accompanies almost every case. The loss of equilibrium, with staggering gait caused by glioma of cerebellum was presented; also cases of paralysis agitans, showing wooden face, pill rolling movements, running gait and several cases of multiple neuritis with typical steppage gait and increased reflexes. Method of taking reflexes, Babinski's sign, ankle clonus were demonstrated. Insane patients, imbeciles and idiots concluded the clinic.

This clinic represents nine years' preparation and is intended for teaching purposes. Dr. Weisenburg is indeed to be congratulated on perfecting such an original and complete method of bringing his subject before his students and this offers unlimited possibilities in other branches of medicine and surgery. A vote of thanks was tendered Dr. Weisenburg by the society.

WALTER D. BLANKENSHIP, Reporter.

LEHIGH—DECEMBER.

The regular monthly meeting of the Lehigh County Medical Society was held December 10, eighteen members being present and President Seiberling presiding. Reports of committees were heard and the death of our vice-president, Dr. P. O. Bleiler, announced. The society has sustained a severe loss in the death of such an honorable and Christian gentleman. His life exemplified the highest and best ideals of our society and we extend to his many friends and family our sincere sympathy and sorrow.

Dr. J. Treichler Butz read an instructive paper on "Ferns," showing the analogy of the plant life to that of the human life.

In the absence of Dr. A. N. Miller, Dr. W. H. Hartzell spoke briefly upon the etiological factors and the treatment of diabetes, citing an exceptional case where a person had a large percentage of sugar for years, no restriction of diet being followed, and never were any apparent ill effects recorded.

E. W. Feldhoff, Reporter.

MIFFLIN—December.

The monthly meeting of the Mifflin County Medical Society was held at the Crystal Café, Lewistown, December 5, at 10:30 a.m., with eighteen members present, and one guest, Dr. G. M. Billmyer of Zion City, Ill.

A committee consisting of Drs. Barnett, Wilson and McKim, was appointed to investigate suggestions made at a recent conference of the state secretaries, first that the fiscal year should coincide with the calendar year in all parts of the state organization; second, making dues payable on January 1 of each year. To comply with these recommedations will necessitate a change in the by-laws.

Officers for the coming year were elected.

Dr S. W. Swigart was received as a member of the local society, on transfer from the Erie County Society.

Dr. S. H. Rothrock read a paper on "The Etiology, Diagnosis and Symptoms of Influenza," dwelling especially upon the suddenness of the attack and the marked prostration, with the concomitant danger of such complications as pneumonia and heart failure. The infecting bacillus is transmitted especially through the nasopharyngeal-tracheal discharges. In the general discussion following, Dr. Harshberger emphasized the necessity for the strictest care in isolation of all grip patients as the greatest factor in the prevention of this prevalent disease.

Dr. G. M. Billmyer gave an interesting account of his experiences as medical practitioner of Zion City, Illinois, the Holy City of Dowie fame; in this city live six thousand people, most all of them faith healers. A faith-healing, Dowie woman, said Dr. Billmyer, admitted that "when the Lord does not relieve through faith alone, then a medical doctor should be called." Many persons, the doctor continued, die for want of medical attention, patients with infectious diseases, women in confinement, tuberculosis, and so on—all in the name of religion. Broken legs set by faith alone are generally shorter than they really ought to be, admitted the doctor. Some of the faithful, however, are a little wiser than their faith allows them to be and are beginning to use remedies which they manage to obtain without the knowledge of those of the Dowie church in authority; such boldness, if discovered, would be promptly punished.

After adjournment members and guests enjoyed an elegant dinner, served by Caterer Nichols, as the guests of Dr. J. P. Getter, the retiring president.

F. A. Rupp, Reporter.

MONTGOMERY—November.

The regular meeting of the Montgomery County Medical Society was held at Charity Hospital, Norristown, November 6, Dr. Henry F. Slifer of North Wales read a paper on "Diseases of the Kidney." Dr. Remo Fabbri reported a case of anthrax of the foot caused by the friction of a shoe. Dr. R. Knipe reported two cases of typhoid treated by vaccine, with excellent results.

At the meeting of November 20, Dr. W. R. Roberts read a paper on "Anatomy and Physiology of the Digestive Organs in Childhood" and Dr. H. D. Reed read a paper on "Gastric and Intestinal Indigestion of Children." Dr. C. Z. Weber reported a case of convulsions in a child which lasted two hours without an interval. Recovery followed.

Edgar Stanley Buyers, Reporter.

PHILADELPHIA—November.

The meeting of the Philadelphia County Medical Society was held November 13, at 8:30 p.m., President Hammond in the Chair.

"A Consideration of Commissions Offered by Commercial Houses to Physicians" was presented by Dr. W. Wayne Babcock. It has been said that the giving of commissions between the general practitioner and the surgeon has been carried on with such thrift that the operator has been able to classify the general practitioner as a ten, twenty, or a forty per cent. man, and that to secure patients from a competing operator it is necessary in some instances to give even a larger commission. This practice of commissions within the profession seems to have relatively little vogue in Philadelphia. Commissions offered upon druggists' prescriptions seem to be almost unknown in Philadelphia. A third type of commission is that existing between the oculist and the optician, and between the oculist and an institution. The giving of commissions by instrument dealers, bandage and truss makers and those who fit orthopedic appliances is almost universal in Philadelphia. One or two firms have had the courage to refuse the adoption of this method. The usual discount is twenty per cent. off the list but the dealers complain that occasionally the physician demands more. Some dealers assert that commissions are accepted by certain men of standing and with high affiliations; others that the practice is restricted to a special class of physicians. From the medical standpoint the practice may be traced in part to loss of professional ideals and to neglect of training in medical ethics. It is a far cry from the days of the older Philadelphia firms, when Kolbe, Gemrig and Snowden, noted instrument makers of their time, took off their hats with a respect that was almost reverence when they met one of the Philadelphia surgeons on the street, to the present day conditions of trade association between dealers and physicians.

The opinions of various firms relative to the matter of commissions are of interest. One firm writes: "We have fixed prices for all our appliances and everyone that is able pays the same price, whether a commission or fee is permitted or not, and if a physician, instead of troubling himself to buy a truss and apply it and later makes different changes to it, recommends our establishment we consider it strictly honorable and business that he should be remembered—if it were not so, we would not practice it." A second firm says: "We do not consider the practice a desirable one and are in favor of any measures that would cause its abolition. Under existing conditions, however, we feel compelled to give commission where it is expected to be given in order to hold our trade. . . . Abolition of the practice would establish greater confidence by the patients in both the physician and supply houses." A third firm writes that "the question of commission to physicians was discussed at the annual meeting of the American Surgical Trade Association two years ago, and the fact was brought out that this custom was more prevalent in Philadelphia than elsewhere. . . . No conclusion was reached as to how this could be abolished. . . . We would not like to say that 95 per cent. of the Philadelphia physicians expect the commission, but we will state from experience that about 95 per cent. will accept the same without any question." A fourth firm says that "possibly 75 per cent. of the physicians accept commissions. They are mostly men in general practice; very few of those of higher standing. We would approve of any measure that could be taken by the county medical or the state medical societies to abolish the practice." A fifth firm writes: "When I first started in business in 1897, I started with the intention of allowing no discount to physicians. I have kept it up for several years, I had to give up the plan if I wished to prosper. . . . I am against it and wish to say that in Germany and England where I was engaged . . . a physician accepting a discount would lose his standing in the medical profession. . . . In Philadelphia 90 per cent. ask for a discount. I never met with a surgeon of high standing to accept a discount." A sixth firm writes, "We are very often approached upon this subject by physicians and have persistently refused to give them what they demand thereby losing the sale." A seventh writes: "I should be in favor of abolishing them if it were done universally, and in such an event the price to the patient could be reduced. . . . There are a greedy few who . . . will in secret demand exorbitant commissions. I have in mind a surgeon who retained half the price on every cheap belt ordered for his ward patients, and fifty per cent. was the price he demanded of my agent for ordering a belt. There are, however, many devoted men of right feeling and conduct, who, because of the pressure of the financial side of living, feel compelled to avail themselves of the help of commissions. . . . Many punctilious physicians refuse it for themselves, but encourage it for assistants or hospital interns. . . . Most hospitals demand this discount if the ordering passes through their hands. . . . I think the estimate of 95 per cent. who take commissions is not exaggerated."

In considering the various firms involved in this practice it is a rather striking fact that those firms who apparently are doing a prosperous business are the ones offering commissions, while firms working within a restricted scope are usually those refusing the granting of commissions.

Dr. Henry W. Cattell: Dr. Babcock has been knocking Philadelphia for the receiving of commissions. I was in New York some time ago and in going over the books of an undertaker who had a large business among the poor of the east side it was found that in one out of every three or four burials part of the money received went to the doctor.

Dr. George Erety Shoemaker: The matter can not be reached by legislation because of the difference in attitude of professional and commercial men. The professional man has always considered it dishonorable to accept a bribe for his opinion, and the business man feels that it is only an ordinary business transaction to give a commission. The patient will continue to think that we receive commissions, no matter what we say. The only thing to be done is for each man for himself to set up a standard to which he will adhere. Personally I have been trying for many years to do that, even declining the soda water proffered, and have always acted on the principle that if any house offered me a commission for my business, I ceased dealing with that house.

Dr. John A. McGlinn: I do not favor the granting of commissions, but it can be readily understood how a young man, needing money, might feel impelled to receive a commission inasmuch as the patient suffers no violence from the transaction. From the side of the business man who wants to increase his business the paying of the commission is practically the same thing as paying an agent.

Dr. Babcock, closing: From the opinions of the instrument dealers I think we have an array of evidence which puts beyond question the fact that these commissions are extremely prevalent. I am told that by legal enactment the unfortunate patients can be protected by prohibiting the giving of such commissions. It seems to me that the matter is of sufficient importance to have a committee appointed by the county medical society to go over the ground and decide whether some such action can not be taken.

"The Principles of Preventive Medicine in Institution Management, or Hospital Prophylaxis; a Wide Problem" was presented by Dr. Leonard D. Frescoln. The hospital of to-day should not be repulsive, but an exponent of the most advanced medical thought. In carrying out hospital treatment, accidents and the spread of disease must be guarded against. Here the principles of prevention should be taught and practiced. There should be in attendance properly experienced doctors, nurses and orderlies. We should be on the alert for drug fiends; should regulate the speed of ambulance to prevent further accidents; be prepared for emergencies, and endeavor to diagnose and treat receiving-ward cases at once. Every attendant should know how to carry a patient, prevent conflagration, extinguish a fire and anticipate a delirious patient jumping out of a window. Care should be taken in the administration of ether or chloroform for the sake of the patient and of the hospital. It is to be remembered that the pulmotor may revive an asphyxiated patient. It should be seen that elevators are in proper order. Transmissible diseases should be reported to the board of health and suspicious cases to the coroner. The rôle of the social service work is important. The *x*-ray, laboratory and other hospital appliances should be fully utilized. The importance of written permission, consultation with the family and ministry are matters for consideration. There should be entire sympathy between the staff and the hospital's board of managers.

Dr. S. D. Risley: It is not easy to prevent the spread of contagion in a general hospital. In the majority of cases the contagion is spread because of the admission of visitors. Another source of danger is the admission of a patient without due study. There should be an isolation ward in which such a person can be kept until the nature of the illness is determined, and if the patient is not a proper one for the hospital because of the contagiousness of his malady he should not be returned to his home or sent to another hospital in a public conveyance.

"Complications Following Spinal Anesthesia" was presented by Dr. George W. Sholler. That embarrassing and dangerous complications may follow spinal anesthesia can not be denied. The idea apparently is held by some that the procedure may be done with impunity at almost any part of the spine, and I have seen it done by young men a year out of college and practically without surgical experience. Of two cases in which unfortunate results were present, one was a lady of forty years, operated upon in June last. During the subsequent two weeks she did not regain much use of her legs and when attempting to stand she sank to the floor. She was then in bed for six weeks longer. At the present time she has trouble in lifting her feet and her gait is uncertain. Tenderness and pain are present at the site of the injection. I think prognosis as to actual recovery of the function of both legs is very grave and the question arises whether spinal anesthesia is ever justifiable. The second case was that of a woman seen in the spring of 1911 who said she had been operated upon about seven months prior under stovain by spinal anesthesia. In this case the symptoms were practically a duplication of those in the case just cited. While it may be impossible for one to become sufficiently skilled to be able to stop the trocar and cannula in the subarachnoid space, yet accident may readily happen from a slight motion on the part of the patient or lightly increased pressure by either hand of the operator. The most important paralyses that may occur during the subarachnoid anesthesia are those of respiration. Animal experimentation has demonstrated that stovain in the fourth ventricle will cause the arrest of respiration while the action of the heart may be continued for thirty minutes. It is difficult to get a correct idea of the frequency of deaths from this method of anesthesia. While we have no ideal anesthetic, with the patient properly safe-guarded, ether seems to be the choice of the leading surgeons of the day.

Dr. Barton Cooke Hirst: It seems to me that the statement of facts we have just heard would make it impossible for us to use spinal anesthesia as a routine method of anesthesia. I was much interested this summer, as a member of the Gynecological Club making a tour of Europe, in watching the different forms of anesthesia, and especially spinal anesthesia. I found that the prejudice I had always entertained regarding spinal anesthesia was strengthened by what I observed in the clinics abroad. I was confirmed in my feeling that it should be used only in very rare and carefully selected cases.

Dr. William Egbert Robertson: I am led to think of some experiences of my own when I first fed typhoid patients. Dr. Hirst admits that he is prejudiced. By his own admission, therefore, he is not an impartial judge. Dr. Sholler says that in 1911 he knew nothing about the subject. I do not suppose he has acquired a massive knowledge in one year. I believe that, as a rule, the most severe critics of any method are those who have no, or at least but a limited, practical knowledge of a given matter. I say this because of the large correspondence that came to me after the publication of my first paper on the feeding of typhoid patients. I presume the conditions are not different regarding other measures which seem radical and perhaps iconoclastic. It is always difficult to introduce something not strengthened by tradition. Personally I know nothing of the value of the method, but call attention to the importance of other methods of anesthesia than the routine use of ether and chloroform. Infinite damage has been done in pulmonary conditions by the use of ether.

Dr. McGlinn: Spinal anesthesia I believe has a great field. More particularly than any other anesthetic should it be in the hands of an experienced anesthetist. The matter of administration of anesthetics in our hospitals should be in the hands of trained men. The present method is a disgrace to the profession.

Dr. Babcock: Our attention is frequently called to patients whose symptoms have been interpreted by physicians as due to spinal anesthesia. One such case was that of a man whose symptoms were said to be due to a blood clot at the site of the needle puncture. I asked that the *x*-ray plate be sent to me for examination, and found that the shadow of the man's heart had been described to him as a blood clot pressing upon the cord. Another case was that of a man returning on crutches two weeks after operation. The condition was hysteria and the man walked in two days. I have asked Dr. Sholler the name of the patients he has reported but he has not been at liberty to give them. I wish the cases might be studied by a neurologist. There is nothing so appeals to many patients as does the suggestion that spinal anesthesia gives rise to the conditions that have been described.

Dr. Sholler, closing: It is not the intention to condemn any special form of anesthesia but to emphasize the fact that many young men are using spinal anesthesia who have morally no right to do it.

"Origin and Treatment of Mental Defectives" was presented by Dr. John A. Roddy. Tuberculosis, alcohol and syphilis are responsible for a large proportion of mental defectives. Sterilization of all mental defectives could not prevent the increase of mental defectives, much less eradicate them. Sterilization would prevent procreation but not the dissemination of venereal diseases which are among the causes of degeneracy. At the same time, sterilization of feeble-minded people at large, would remove a barrier to unlawful venery and would probably increase social disease. Not knowing the cause of mental deficiency in many of its forms we have absolutely no right to endorse a treatment which jeopardizes life.

Dr. Albert H. Moulton: Those who advocate sterilization of the insane limit it to the incurable patients, but who of us is willing to point out the incurable insane? I have seen so many cases of apparently hopeless dementia in which the patients have become useful citizens that I would hesitate very much in saying who will not recover. Therefore, I think it would be a very improper thing to apply this method to such persons.

HOWARD CHILDS CARPENTER, Reporter.

WAYNE—DECEMBER.

The meeting of the Wayne County Medical Society was held at Hotel Allen, Honesdale, December 19, with about one third of the members present. It was decided to hold the next meeting at Fairview. Dr. George W. McCafferty, Jr., formerly a member of Philadelphia County Society, was admitted to membership. He is now connected with the hospital for the Criminal Insane at Fairview.

F. A. LOBB, Reporter.

YORK—JANUARY.

The York County Medical Society held its annual meeting in the parlor of the Colonial Hotel January 2, at 6:30 P.M. Dr. Bittenger called the meeting to order, with fifty-five members present. President Rohrer of the Lancaster County Society and President Smith of the Dauphin County Society were invited guests, and Drs. John J. Newpher, Mt. Joy; Jacob R. Lehman, Mountville; G. E. Spotz, Brantley F. Parker, York; and C. R. Snyder of St. Johns Military School, N.Y., were present as guests of various members of the society.

The treasurer's report was read by Dr. C. W. Eisenhower, and accepted as presented. He also read his report as editor of the *Bulletin*, and showed that its publication, instead of being an expense was really an investment which even added to the income of the local organization. The society elected officers for the ensuing year. Drs. McKinnon and Meisenhelder, Sr., were appointed to escort President Fackler to the chair, after which he responded with a few well chosen remarks.

The following is the program for 1913:—

January: Elections. Banquet.

February: "The Diagnosis of Empyema," Dr. Charles A. Keagy, discussion opened by Dr.Charles Rea; "The Treatment of Empyema," Dr. I. C. Gable, discussion opened by Dr. J. F. Norris.

March: "The X-Ray in Its Relation to Medicine and Surgery," Dr. F. H. Baetjer, Baltimore.

April: "Surgical Tuberculosis," Dr. Louis S. Weaver, discussion opened by Dr. Roland Jessop; "Anesthesia," Dr. F. V. McConkey, discussion opened by Dr. O. A. Della.

May: "Practical Discussion of Tuberculosis of Genito-Urinary Organs," Dr. George Walker, Baltimore.

June: Visit to the Alexander Laboratories at Marietta.

July: Subject to be announced, Dr. J. H. Comroe, discussion opened by Dr. H. W. Zech; "Diseases of the Nasal Accessory Sinuses; Diagnosis and Treatment," Dr. J. Fletcher Lutz, discussion opened by Dr. Charles E. Spahr.

August: "The Responsibility of the General Practitioner in the Diagnosis of Kidney Diseases," Dr. Guy L. Hunner, Baltimore.

September: "Moving Pictures of Nervous Diseases," Dr. T. H. Weisenburg, Philadelphia.

October: "Schoenlein's Disease," Dr. Charles H. May, discussion opened by Dr. C. H. Smith; "Infantile Paralysis," Dr. C. W. Eisenhower, discussion opened by Dr. W. S. Weakley.

November: "Extrauterine Pregnancy," Dr. J. H. Bennett, discussion opened by Dr. A. B. Shatto; "Unusual Hemorrhages at Puberty and the Menopause," Dr. L. J. Dice, discussion opened by Dr. David Posey.

December: "Physicians as Business Men." Dr. C. F. Taylor, Philadelphia.

LAWTON M. HARTMAN.
E. S. MANN.
E. W. STICK.

Following the meeting, the members and guests proceeded to the beautifully decorated dining room, where the committee had arranged a treat in the form of an excellent supper. An orchestra was present and rendered some very pleasing selections. Dr. J. H. Sieling served as toastmaster. In addition to the addresses of the retiring and incoming presidents, all of the out-of-town guests and many of the local physicians added appropriate remarks.

JULIUS H. COMROE, Reporter.

TRAINED MEDICAL TEACHERS IN HOSPITALS.

To begin with, the professors and teachers in such a centralized hospital should be brought from Europe or should be the direct product of some years of European study and training. As yet we have very few trained investigators who can or who will train others for the tasks which shall follow. Most of us can not afford to dabble in science, no matter how strong our desire. We must be eternally concerned with the question of making a living out of the misfortunes of mankind. If things were as we should like to see them, only men independent of their profession as a means of livelihood would practice the science and art of medicine. Physicians should be men of independent means, deeply engrossed in their work as a scientific and philanthropic industry. That, of course, is an ideal which probably shall never be attained, but its improbability in no sense militates against its desirability.—*N. Y. State Jour. of Med.*, Dec., 1911.

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ORIGINAL ARTICLES.

DIETETICS AND POLICING OF CAMPS.

BY H. A. ARNOLD, M.D.,
Major, Medical Corps, N. G. P., Ardmore.

(Read at the General meeting of the Medical Society of the State of Pennsylvania, Scranton Session, September 25, 1912.)

The limited time at my disposal, the dual nature of my subject and its comprehensive character admit of its subjugation only by assault; hence its presentation in an illogical, fragmentary and dogmatic manner. Had choice of my subject rested with me I would have been less ambitious of title and more logical in elucidation. In accepting this title for my paper, it shall be my purpose to present for your consideration two topics, disconnected except so far as they are both important subdivisions of the art of preserving or restoring the health of the soldier in the field.

MILITARY DIETETICS.

This is a term given to such systematic regulation of the food of the soldier as shall satisfy the cravings of hunger, provide ample sustenance for a strenuous existence, meet hygienic as well as therapeutic requirements, and yet consist of nonperishable, easily prepared articles of minimum bulk and weight, thus being readily transportable.

The problem of feeding the army has always been one of such magnitude as to require serious consideration on the part of the medical and commissary departments; for not only must there be a definite understanding as to the component parts and proportions of the ration, but also the provision of quantity and quality at the required time and place. The exigencies of climate, geographical situation, transportation facilities, distance from base, and locally obtainable supplies are all factors entering into the interesting and important problems. The medical officer has to deal only with character, condition, quantity and regularity of issue of the supplies. The procuring, transporting and issuing come under the domain of the commissary department.

Food. The maintenance of perfect bodily nutrition and the greatest development of energy require the consumption of proteids, carbohydrates and fats in suitable proportions, with an adequate amount of water. A convenient classification of food materials is the following:—

Organic (animal and vegetable)	Nitrogenous: Proteids or proteins.
	Non-nitrogenous: Carbohydrates (sugar and starches); vegetable acids.
Inorganic (mineral)	Mineral salts
	Water.

Proteids. Chemically they consist of oxygen (23), hydrogen (7), carbon (52), nitrogen (16), sulphur (0.5 to 2) and a small amount of phosphorus. Nitrogen being their dominant element they are called nitrogenous foods. They are the principal constituent of muscles, and make up eighteen per cent. of the body weight. They are the tissue formers and repairers.

Fats and Carbohydrates. They are the source of heat and energy. Muscular exertion, extremes of heat and cold, wasting disease all call for greater consumption of foods in which these components are present in predominating proportions. Sugar is especially important as a stimulant to great muscular exertion.

Water. From 70 to 100 ounces are consumed daily, one third being contained in the food. When pure it should be odorless. Any odor is suspicious. Taste is scarcely a correct guide, as iron, salts and vegetable matters all impart taste, but need not be harmful. Nitrogenous organic matters, being nearly always of animal origin, are likely to be due to the presence of sewerage. The invariable presence of harmful impurities in the waters of thickly settled communities makes filtering and possibly boiling a necessity in the use of water that has not been submitted to recent analysis. To make assurance doubly sure, boil anyway. Inasmuch as boiled water cools slowly, and is liable to contamination while cooling, the use of coffee or weak tea is recommended.

The Forbes sterilizer, and Darnall filter are now in common use in the army and are the very best for field use.

The Potential Energy of Food. As measured by the amount of heat obtained by combustion, energy is expressed in units of heat or *calories.* A calorie is the amount of heat required to raise 1 kilogram 1° C. (1 pound of water 4° Fahrenheit).

The calorimetric values of the three proximate principles of food stuffs is approximately as follows: 1 gram of proteid, 4 calories; 1 gram of carbohydrate, 4 calories; 1 gram of fat, 9 calories.

Amount of Food Necessary. This may be shown by the accompanying table.

In garrison or camp, the full value of the ration consumed need not be over 2800 and should never exceed 3000 calories except in a very cold climate when it may be run up to 3500 calories.

Experimenters vary in their conclusions as to the proportions and amounts of the proximate principals in the well-ordered diet, but a generally accepted proportion is one part proteid, one half part fat and four parts carbohydrates. The amount of proteid should be not less than 7½ grains to each pound of body weight.

Cheyne in 1725 said, ''Food, sufficient to keep a man of ordinary stature, following no laborious employment, in due plight, health and vigor is 8 ounces of flesh meat, 12 of bread, or vegetable food, and about a pint of wine, or other generous liquor in twenty-four hours.''

Parke's table for the British soldier in the field is as follows: Proteids (flesh), 6 to 7 ounces; carbohydrates (starch and sugar), 16 to 18 ounces; hydrocarbons (fat and oil), 3.5 to 4.5 ounces; salts, 1.2 to 1.5 ounces; water or other liquid three to five pints daily.

One half pound of fresh lean beef will furnish 60 grams of proteid. With milk, eggs and vegetable foods constituting additional sources of proteids, it is apparent that a smaller quantity of meat will be required.

Ration. Applying the knowledge of the physiologic and calorometric value of foods to the subsistence of the army, various rations have been devised to meet the needs

	Proteids.	Carbohydrates.	Fats.	Calories.
Man of average weight (150 lbs.)	118 grams	500 grams	56 grams	3055
German soldier	145 grams	500 grams	100 grams	3574
French peasant	135 grams	700 grams	90 grams	4260
English weavers	151 grams	Enough	Enough	3475
American workingman (light labor)	125 grams	Enough	Enough	3400
American workingman (hard labor)	150 grams	Enough	Enough	4150
Yale crew	171 grams	434 grams	171 grams	4070
Harvard crew	160 grams	448 grams	170 grams	4074
U. S. soldier average garrison ration	157 grams	481 grams	99 grams	3536
U. S. soldier haversack ration	113 grams	489 grams	218 grams	4448
U. S. soldier travel ration				2735
U. S. soldier Filipino ration				3980
U. S. emergency ration (8 oz.)	25 per cent.	35 per cent.	31 per cent.	1325
French soldier garrison ration	125 grams	573 grams	60 grams	3426
Voits standard diet	60 grams	500 grams	60 grams	2854

of the troops according to the nature of the duty performed. Thus there is the garrison ration, field ration, haversack ration, travel ration, Filipino ration and emergency ration. The allowance for one man for one day is a ration.

The garrison ration is extremely liberal and its many optional articles provide a long list from which to choose. By selecting the most nutritious articles, such as fresh meat or bacon, hard bread or corn meal, beans, potatoes, dried fruit, butter and syrup, we can obtain from it a full value of about 5500 calories. It is so comprehensive that any desired food value can be obtained by ringing the changes.

Remove the frills from the garrison and you have the travel ration. The travel ration is of the sandwich and coffee character.

The haversack ration is bacon, hard bread, pepper, salt and sugar.

The emergency ration is the soldier's last resort. It is hermetically sealed in a tin case, and is not to be opened except by order of an officer or in extremity. The emergency ration consists of three cakes of chocolate, 1 ounce each; three cakes of wheat and meat, 3 ounces each; salt and pepper, 1 ounce; weight of container, 2 ounces; total 15 ounces. Wheat is boiled, dried, hulled, ground and mixed with desiccated and ground lean beef in the proportion of two parts of former to one part of meat. It contains 102 grams of proteid, 54 of fat, and 153 carbohydrates; full value, 1500 calories.

The garrison ration consists of fourteen staple and three subsidiary items, twenty-two principal and four substitutive articles, a total of forty-three different articles which may be added to by purchase from the company fund.

No other soldier in the world is so liberally provided for as that of the United States.

Therapeutic Ration. The therapeutic ration is augmented in various ways. Patients in hospitals, getting little or no exercise, do not require full rations, hence Army Regulations (1246) provide that all articles of garrison, travel or Filipino ration, due and not issued, will be retained for reissue by the commissary and will be paid for by him as savings, at current prices of the component articles of the ration.

The hospital fund is derived from the following sources: Commutation of rations of patients and members of the nurse corps; savings on rations of hospital corps; dividend from post bakery; dividends from post exchange; dividends from post garden; money received for subsistence of officers and civilians treated in hospital. This fund may be expended in furnishing variety to the mess of hospital corps, nurses and patients.

A further addition to the dietary of the sick is provided in hospital stores issued to field, evacuation and base hospitals, comprising arrowroot, beef extract, brandy, chocolate, cinnamon, condensed milk, rolled oats, soup in tins, tea, whisky and other articles.

From the sources enumerated, the officer in charge of the mess usually arranges the following diets: Full diet is what is served on the dining-room table. Light diet consists of liquid and semisolid foods of an easily digestible character. Liquid diet consists of milk, soups, broths, gruel, albumen water, malted milk or other liquids in designated amounts. Special diet enables the surgeon to utilize the privilege of commuting rations and procure, by purchase, articles needed for particular cases.

Bills of fare should be prepared by the mess sergeant, providing ample variety, and should have the approval of the medical officer.

The common sense use of the materials at hand should be the governing rule of military as well as civil life, hence we need pursue this subject no further.

POLICING OF CAMPS.

Camp grounds should be at all times in good, sanitary condition; it is a possibility. What is possible and desirable should be, and if it is not existent, some one is to blame. Combined cleanliness of camp, quarters and person constitute the gospel of camp sanitation. History emphasizes the necessity for this gospel, for filth and disease, traveling hand in hand, have decimated many promising armies.

It is a common mistake to crowd camps, thus preventing access of air and sunshine, furnishing nooks and crannies for undiscovered pollutions, and rendering difficult, efficient ditching. Take interval and distance.

I shall use the regiment as the unit in presenting this subject, for it requires but adaptation to apply the principles and methods to larger or smaller organizations.

The regimental commander being responsible for the condition of his camp, appoints each day a superintendent of police, designated as officer of the day, who has command of all guards and prisoners, and is responsible for the order and general well-being of the camp.

Present regulations make company commanders responsible for the police of quarters, kitchens, company areas, and the personal cleanliness of the men. The major portion of this task is done at an early morning hour, when, at the sounding of police call, each company turns out with a commissioned or noncommissioned officer in charge, and makes a thorough scrutiny of every inch of their camp area, gathering up and removing everything objectionable or unsanitary. This work should be done so thoroughly that the entire camp and its surroundings receive careful attention, not neglecting stables, sinks and kitchens. This work may be continued during the day as required, by the use of prisoners and fatigue details.

Provision must be made to care for all spigots and water barrels by stone-filled drip wells. Stone-filled ditches must carry off all water tending to create swampy conditions. Ditches must divert all surface water from sinks and tent interiors. Much frequented walks to the rear or elsewhere should be elevated slightly if the ground is wet from drainage or continued rain.

Consistent with personal cleanliness, curb the soldiers' propensity for profligacy in the use of water, by orders regarding the use of shower bath and wash basin, and prohibiting washing under the spigots.

All materials removed from camp should be properly disposed of. And here let me remark that seven out of ten police details, if left to their own sweet will, will carry all the refuse to the corner, gully, clump of bushes, or other spot as near as possible beyond the rear guard line and there establish a dump that will soon rival those fringing all our very sanitary cities. However, what is permissible in civil life is not permissible in military, hence the almost immediate discovery by a vigilant medical officer means a new detail on the spot to police the pollution created by the first detail. Watch the disposition of refuse by your police details, and thereby save much trouble. All stones can be used to fill kitchen spider pits, drip well pits, drains, gullies and to build walks. Inflammable materials should be burned at the rear of the camp in a pit used exclusively for that purpose. Horse manure should be removed from all parts of the camp, including stables, daily, lest the infected spots breed flies innumerable. If unable to remove it, have it burned at a convenient distance, with due regard to prevailing winds.

Other refuse must be carefully buried. He who cleans his own yard, and throws the refuse materials over the fence into his neighbor's yard is a public nuisance, and yet too often carefully policed camps have a fringe of objectionable material, clearly indicating the fact that the policing of camp has resulted in the pollution of its surroundings.

A common excuse given when you come upon some particularly flagrant exhibition of soil pollution is that it was not done by that company, but by another. My reply is invariably, "A good soldier never allows any one to pollute his camp. Either make the other fellow clean it up, or clean up the filth yourself. It is your camp and it is up to you to keep it clean."

Instruction in and the enforcement of orders calling for sanitation of person of the enlisted man, especially if he has kitchen duties, will be of assistance in procuring clean quarters; for a man is never cleaner than his surroundings. You always find a dirty cook in a dirty kitchen, and soil pollution is seldom found in or around a mess kitchen where the cook is clean of person and clothing.

Polluted soil must be burned over, dug under, or covered with quick lime, crude oil, or wood ashes from the fire. Lime and wood ashes should be used freely in and about all kitchens, whether evidence of pollution exists or not.

Fecal Pollution. Soil pollution of a camp or its immediate surroundings by fecal matter should never be tolerated for one minute. Straddle sinks, of one shovel width, should be started as soon as the command halts, immediate notice given of their location and pollution of camp by fecal matter made a serious offense to be severely punished.

No method for the disposal of fecal matter has yet been devised that is superior to the pit or latrine system, but its efficiency depends upon the gradual return of the excavated earth as a covering for the accumulating excreta. Fly-tight seat boxes should cover these pits. Once a day, or oftener, these boxes should be tilted over, the pit burned out by means of hay or straw sprinkled with crude oil. Odors and insects will not be noticed about sinks so cared for. Urine cans and their sites should receive the same careful attention.

Should the camp continue on one site for a long time elevated paths should be constructed, white washed or with whitewashed borders, leading to the sinks and urinals, thus facilitating the use of these instruments of salvation or destruction.

Stables and picket lines are certain to become polluted and should be removed to new locations at frequent intervals, the ground burned over by using crude oil or other material; lime used freely and the soil dug or plowed under.

Garbage and Kitchen Refuse. Incessant watchfulness is needed to prevent soil pollution in and around the kitchens. Cooks are careless, and unless checked will soon have garbage, dishwater, coffee grounds and other materials scattered over a wide area. It is now possible for the cook to dispose of all kitchen refuse in the fire that does all cooking but baking, by means of the arrangement I have designated—the spider crematory.

The Spider Crematory. The spider is an iron grating 50 by 24 inches for a company of fifty-five to sixty men. The side pieces, 18 inches longer at each end than the grating, are bent down at a right angle to form legs. A rectangular pit is dug slightly larger than the grate surface of the spider. This pit is 36 inches deep at one end and 48 inches at the other. Fill the pit with stones to a height of six inches above the ground level and bank up on all sides with the excavated earth to exclude surface water. Set the spider on the stones and wall up both side spaces to the height of the grating, leaving both ends open. Walling up the front and rear confines the heat, conserves fuel, and protects the limbs of the cook from extreme heat as well as from flame and smoke in gusty weather. The open ends allow free access to the fire for feeding fuel, also for emptying garbage, dishwater, etc. Papers and other inflammable material may be burned here. Parings and other vegetable refuse become fuel through desiccation. Tin cans burned at one end of the fire may be removed and buried, having been rid of their organic contaminations. All liquid materials such as coffee grounds and dishwater should be carefully poured in at the deepest end of the pit, to be gradually evaporated by the superheated stones.

The solution of this problem engaged my attention for more than ten years, during which time I tried out many measures with and without the spider, finally evolving the deep pit and walled up sides as the problem solved. It is now in use in many states, in the United States Army and in some foreign services.

With a clean cook, clean kitchen and all garbage and kitchen slops sanitarily disposed of, a long step is taken toward a well-policed camp.

A camp with unpolluted soil may be maintained indefinitely, but when extensive soil pollution occurs, the camp must be removed to a new site.

Responsibility of Medical Officer. Having placed responsibility on the commanding officer, you may be wondering where the medical officer comes in, in this matter of policing of camp. Let me quote from a general order: "The senior medical officer of each organization will be the sanitary inspector of camp and will make daily inspection of water supply, kitchen, collection and disposal of garbage, tents, bathing places, and sanitary conditions of the camp, and will report any defects or delinquencies to the respective commanding officer for correction."[1] You will notice his position is that of sanitary inspector. If he is interested in results he will make not one inspection, but many each day.

To facilitate my duties as inspector, about ten years ago I devised a regimental sanitary report blank. It is the first of the kind of which I have knowledge and has been in continuous use by me ever since. Each morning at 8 o'clock, the regimental commander receives a complete report, informing him at a glance, as to the exact sanitary condition of every portion of his camp at a designated hour. The surgeon retains a copy of each report for comparison by days and years, also to note the correction of the defects or failure to do so.

Sanitary Squad. My latest step has been to secure, by detail, a sanitary squad of one man from each company and the band. They are relieved from all other duty except evening parade. They report to me for instruction as sanitary soldiers, and are held responsible for any sanitary defects in the organization from which they are detailed. A hospital sergeant directs their work along the rear once or twice a day, and makes inspections more frequently.

SANITARY INSPECTION SIXTH REGIMENT INFANTRY, N. G. P.

	Quarters	Mess Tent	Kitchen	Rations	Water	Sink	Drains
Headquarters							
Hospital							
Band							
Company A							
Company B							
Company C							
Company D							
Company E							
Company F							
Comdany G							
Company H							
Company I							
Company K							
Company L							
Company M							

Remarks:
Station ....
Date ....Surgeon..........N. G. P.

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[1] G. O. A. G. O. No. 16, June 16, 1908.

Eternal vigilance is the price of perfect sanitation. This plan bids fair to work out our salvation along this line, and to greatly simplify the performance of a task that has often tried our souls and frequently jeopardized our hopes of a happy immortality.

DISCUSSION.

DR. M. HOWARD FUSSELL, Philadelphia: I am not a soldier and never was, but I am somewhat of a camper. I was extremely interested in the point of destroying the garbage over the spider. I have used a spider, but did not think of using the stone. I should like to know what Dr. Arnold uses for fuel. In the ordinary camp in the woods, I have used an ordinary camp fire.

DR. L. J. HAMMOND, Philadelphia: I rise to ask how long the soldiers are compelled to go without food before they are permitted to open this reserved portion.

MAJOR ARNOLD, closing: As to the camp spider, I presented that subject before the Association of Military Surgeons of the United States in 1907 after having reached a definite conclusion in my own mind that we had gone about as far as we could. In the article that I presented at that time, I gave definite measurements, as I have done in the article read here, for the construction of it. If you have a spider with legs, you build it up as I have stated, making sure that you have a bed of rocks sufficiently deep to accommodate all liquids until these heated stones can draw up and evaporate the moisture, which they will do. Our fuel is nearly always wood. If you were in a section like this, you would do as I did during the anthracite troubles in 1902. I made a circular hole for the crematory, with a rock-piled center, and had a fire that was in operation constantly, doing this same work for the battalion, instead of for each company. This, however, is a better plan. Every company has a cook and a spider. Every work can be done with it, except baking. Not many of the cooks bake to any extent, as the bread is furnished them. The wood can be pushed in from the ends. The cans can be pushed in from one end, and at that end the liquid portions of the garbage can be poured down. They must not swamp the fire. There is abundance of space to take care of the refuse. The potato parings, etc., become desiccated, and become fuel for the fire. A description of the method will be found in Colonel Havard's, Colonel Woodhull's and Major Ashburn's Military Hygiene. In San Antonio, at the 1911 maneuver camp, they tried to improve on it, but the improvement did not work out right.

As to the time that a soldier goes without food before using the emergency ration, I would say that it is very seldom that any command on campaign or detached service is without a medical officer. When a medical officer is along, he decides this point by knowing the physical condition of the men, the circumstances in which they are placed, their distance from the base of supplies, and the possible sources of supplies. In the absence of a medical officer, the commissioned officer in charge of that detail would decide the question for his command. If an enlisted man should stray from the command, he is privileged to open the can after having used up all his other food.

FUNCTIONAL PSYCHOSES OF THE SENILE PERIOD.

BY ALBERT C. BUCKLEY, M.D.,

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(Read at the General Meeting of the Medical Society of the State of Pennsylvania, Scranton Session, September 25, 1912.)

During the past few years considerable attention has been given to the study of mental diseases in old age. The result of this has been that some of the former generally accepted notions regarding senility have been modified and others have been discarded. Most of the changes of viewpoint have been the result of investigations which have furnished pathological data for the foundation upon which to base certain conclusions. For example, it has not been a great many years since it was considered physiological, and therefore it was to be expected, that mental changes should occur in the aged, even to the point of giving evidence of distinctly abnormal mental activity. This was regarded as simply the effect of old age. On the other hand, the few individuals who reach an advanced age with mental powers apparently facile, with dependable memories and amiable dispositions, maintained as in earlier years, were considered exceptions, not only as exceptions to the usual rule but contrary to the normal. This viewpoint to-day has no substantial support. In fact, the whole-minded "aged" persons, apparently the exceptions, are in reality regarded as the real examples of the normal. All departures from this, and indeed they are many, must be considered as the pathological type of senile mind. The individuals who have reached the ripe old age with mental powers intact are the ones to be regarded as possessing a heritage in the form of a stable nervous system, and having the good fortune to escape those diseases which seriously damage the vascular and parenchymatous structures of the organs concerned in the metabolic processes of the body as a whole. The pathological group is therefore to be found among those individuals who, by reason of a bad heredity, a disregard for the principles of hygiene, or on account of long-standing ill health, wear out early, either physically, mentally, or both. In such persons one may detect evidences of early retrograde metamorphosis, indicated by gray hair, sallow and atrophic skin, thickened and palpable arteries, arcus senilis, increased vascular tension and diminished myocardial tone.

Experienced students in psychiatry have already noted the fact that mental disorders occurring in advanced life are not all to be regarded as instances of "senile dementia." The term *dementia* conveys the idea of irreparable loss of one or more of the mental functions. True senile dementia is comparatively uncommon, if, in the use of that expression, we include only that type of mental failure which depends upon atrophy of the cerebral substance without preceding infiltration, inflammation, hyperplasia, vascular degeneration, sclerosis and softening.

Southard[1] reviewed forty-two cases diagnosed as senile dementia, reconsidering them clinically and anatomically, and found only eight cases of "relatively pure brain atrophy representing the more nearly genuine senile dementia than the arteriosclerotic cases which should be classed as organic dementia."

The question has been raised whether there is any real basis for the use of the term senile dementia, other than the fact that it occurs late in life. There are several types of mental disorder which may occur in old age, as the present communication is intended to point out.

Having defined our position in regard to what is meant by senile dementia, we have yet to state our conception of the term *senile*.

The question of what is to be considered as the senile period is one to be answered upon a basis of anatomical criteria rather than upon a definite age limit. Senility is therefore to be regarded as a relative term. Senility is dependent upon regressive changes especially in the structural elements of the vascular system. Some individuals are senile at a comparatively early age while others maintain their physical and mental vigor late in life.

The subject of precocious senility, first studied by Alzheimer and named for that observer, has recently furnished a topic for much discussion in the realm of mental medicine. The disorder is said to occur at or soon after middle life and is marked by memory defect, inability to recall words, difficulty in comprehending spoken language, mental confusion with some delirium, lack of bladder and rectal control without evidence of limb paralysis, good preservation of muscular strength, considerable motor activity and general restlessness. These symptoms are similar to those originating from coarse focal brain lesions but are not as marked, nor do they correspond with any definite anatomical seat of lesion, as in focal brain disease. Anatomically, these cases are characterized by the presence of microscopic products of degeneration in the form of "miliary plaques," a thickening of the glial elements which react towards the degenerating material much the same as they would towards a foreign body, and thereby a kind of encapsulation takes place. The presence of those structures together with a particular (Alzheimer) type of cell degeneration are regarded as diagnostic.[2]

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[1] *Am. Jour. of Insanity*, April, 1910.

Arteriosclerosis is a recognized etiological factor in the mental disorders of old age, but on the other hand, it is frequently found to occur independently of mental disease. Bolton[3] regards the mental symptoms in many arteriosclerotics as due to "imperfect nutrition and secondary intoxication from the incomplete removal of waste products of metabolism and dissolution, and relatively little encephalic extraneuronic reparative reaction occurs owing to the degenerative or wearing out nature of the whole process."

Finally, there is a class of senile cases, examples of which occur in instances of persons with hard arteries who suffer from attacks of mental disorder from which they recover. These patients appear to be suffering from the mental effects of systemic arteriosclerosis. In these cases there appears to be a greater toxic factor and a lesser degree of cerebral nutritional disturbance, so that the nervous structures are capable of withstanding the degenerative tendency long enough to allow the elimination of the toxic element. Naturally, if the action of the toxins were to continue sufficiently long and further lower the resistance of the nervous structures and if cerebral vascular degeneration should progress rapidly enough, there would follow permanent cerebral damage and irreparable mental loss would ensue. It must be stated that often these patients do not suffer from the subjective symptoms of systemic arteriosclerosis. This may be more apparent than real, on account of the disordered mind, or it may be due to the fact that the process of sclerosis of the vessels has not advanced far enough to produce the usual somatic effects and the corresponding symptoms. Our clinical evidence and laboratory findings seems to indicate that there is an incomplete removal of waste products which in turn react to form a vicious circle.

Concerning the nature of the toxins we must still plead ignorance. We can say that the fact that systemic arteriosclerosis is present, and if the sclerosis is of sufficient severity and duration, corresponding changes probably will have taken place in the viscera supplied by those vessels. In this way, and this far only, can one say that there is doubtless an indirect relationship existing between the vascular system and the toxic condition. We can not place the burden of responsibility upon any gland or viscus. There is evidence that there exists an intimate (?) relationship between the sexual and the adrenal glands, and that in the period of climacteric involution the cessation of function of the sexual glands is accompanied by an excess of functional activity of the adrenal glands. It is also established that adrenal extract injected into the circulation produces a distinct rise of blood pressure; also, that experimentally produced lesions of the blood vessels can be brought about in this way. If this were proved to be a constant factor in given cases, a basis for explaining the pathogenesis of psychoses at and after the climacteric might be provided.[4]

Furthermore, it must be remembered that we are dealing with individuals with an inherited or acquired low resistance on the part of the nervous system, who therefore react in an unusual manner to the accumulated toxins, the effects of which are manifested in the form of mental symptoms. In other words, the reason for the occurrence of mental symptoms is largely a matter of the manner in which the nervous tissues react to an altered quality rather than quantity in the cerebral circulation. One person with pipe-stem radials and correspondingly diseased cerebral vessels, even to the extent that he may suffer from apoplectiform attacks, may show no symptoms of mental disease, except those of deprivation, as in the amnesias and aphasias. On the other hand, the person with the predisposition and with moderately fibrotic peripheral systemic vessels, and with no physical evidence of cerebral vascular disease, may be the one who suffers from the psychosis.

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[2] Fuller and Klopp: *Am. Jour. of Insanity*, July, 1912.

[3] *Jour. of Mental Sciences*, Jan., 1908.

[4] Lugaro: Modern Problems in Psychiatry.

The present communication is concerned with a study of a number of cases of mental disorder in which the symptoms of mental disease were regarded as having had their beginning in the period of senility. Nearly all of the patients suffered their attacks during the sixth and seventh decades. A small number began in the latter part of the fifth decade. Those patients under sixty years presented, as did all others in the group, distinct evidence of disease or degeneration in the systemic vascular system, together with the generally recognized signs of senile deterioration.

Of the whole number forty-two patients died from organic disease of the heart, kidneys or blood vessels; fifteen suffered apoplectiform attacks; nineteen died in coma without evidence of focal cerebral vascular lesions; eight died as the result of more or less sudden cardiac failure, without other local manifestations; one died of sarcoma of the liver; one of aortic aneurysm.

Sixteen patients were regarded either as unimproved or as having passed into a state of permanent mental deterioration.

Twenty-one were sufficiently improved to warrant removal to their homes, and some of these were subsequently reported as having made still further progress.

Twenty patients were discharged apparently restored. It is with this last group of patients, in whom the psychoses were regarded as *functional,* that the present communication chiefly deals.

The recovered cases were of patients between fifty-five and seventy-five years of age. Three patients who had not actually entered the sixth decade were, from the standpoint of their vascular systems, considered as properly senile.

The majority of the recovered patients suffered from types of mental disorder strongly suggestive of an intoxication. The more acute the onset of the disorder, the more strongly did the symptoms point to a toxic exciting cause; these were of the so-called confusional type, approaching the character of a delirium, with disturbances of the mental sensory sphere; namely, active hallucinations of hearing, vision, taste and smell. The hallucinations being of an unpleasant character, gave, in many instances, a basis for motor and mental unrest. On account of the mental confusion the patients were unable to appreciate where they were, the time of day, the day of the month or year (disorientation). The cases with sudden onset ran a comparatively short course of a few months with a restoration to mental health and a marked improvement in the physical condition. In a few instances the activity of the hallucinations was so marked that delusions of persecution with fear of impending calamity were mentally evolved. In these patients recovery was much slower, doubtless on account of the profound impression made upon the mental sensorium, just as in the normal a vivid dream may leave its impression upon the feelings and thoughts for a considerable length of time.

A second group of the recovered cases

includes the psychoses of a more or less subacute onset, with the mental disturbance characterized chiefly by profound depression, delusions of poverty, personal unworthiness or sinfulness, and with a marked tendency to suicide. In some instances the delusions were the result of a somewhat systematized reasoning, the outcome of the patient's defective judgment, and appeared to arise out of the physical discomfort experienced. Rarely could the symptom of definite pain be elicited, but rather a sense of general distress, such as a feeling of numbness, tingling or a burning cutaneous sensation, epigastric discomfort, distress in the throat with inability to swallow, and difficult speech. The last named subjective symptom was present in several of the restored cases in this group. One patient remarked that early in the course of his illness he felt a sensation as if something in his throat had turned over and closed the passage so that he could not swallow. On this account it was necessary to feed the patient with the nasal tube for several weeks. In some of the markedly arteriosclerotic cases there were dizziness and tinnitus aurium. The tongue in all cases was coated, usually heavily; the breath fetid; mouth dry; the skin dry and harsh, not infrequently sallow; the bowels were almost invariably obstinately constipated. The urine was scanty as a rule, and contained an excess of phosphates, urates, oxalates, and frequently an excess of indican. Several patients refused food on account of delusive ideas, such as the belief that swallowing was impossible, that the stomach was already filled, or that food would not pass from the stomach. These ideas doubtless had a basis in a feeling of indefinite but actual abdominal discomfort.

Recovery in this group was much slower than in the confusional cases. The majority continued the greater part of a year before signs of improvement were noticed. Three cases continued for a year and a half.

The last group of the whole number includes those patients who had suffered previous attacks of mental disorder. These individuals gave a history of an hereditary predisposition and a strongly neuropathic tendency in the personal history. They all had suffered from attacks of depression or excitement, or both mental conditions. On this account they were considered as belonging to the “manic-depressive” group of psychoses. In these patients the arterial changes were purely coincidental and bore no relationship to the mental disorder, as far as could be determined. In one instance there existed as a concomitant factor an associated gouty condition with marked gastric hyperirritability. Both of these physical conditions were relieved before mental convalescence was completed.

One case was of special interest on account of the long duration of the disorder, namely about four and a half years. The attack, which was the third, began after sixteen years of good health. The first symptoms were of profound depression; this was later followed by a condition of mental excitement, and still later, by persistent delusions of personal unworthiness and intense fear of impending calamity. Physically, there were distinct evidences of vascular and renal disease. Recovery, which was complete, occurred after a long and tedious convalescence, and thus far (three years) has been permanent.

The accompanying tabulated list is of the recovered cases, with the age of the patient, type of disorder, duration of the attack in each instance, the condition of the vascular system, and a note of the history of a neuropathic heredity when present. In regard to heredity it may be interesting to note that although there was, in two instances, no history of antecedent nervous disease in the parents of the pa-

Case No.	Age.	Type of Disorder.	Duration.	Vascular System.	Remarks.
3611	73	Manic-depressive mild mania.	6 mos.	Moderate sclerosis.	Several attacks.
3615	58	Depression with confusion, stupor.	6 mos.		First attack.
3616	60	Depression and confusion.	3 mos.	Marked sclerosis, albuminuria, casts.	Alcohol (?).
3683	62	Simple depression.	3 mos.	Moderate fibrosis.	First attack. Neuropathic.
3707	56	Depression (suicidal).	5 mos.	Arteriosclerotic. Prematurely senile.	First attack.
3743	67	Depression.	1 yr.	Marked sclerosis.	First attack.
3748	57	Manic-depressive (depression).	5 mos.	Prematurely senile.	Second attack. Neuropathic.
3749	68	Manic-depressive.	17 mos.	Senile.	Third attack.
3776	67	Manic-depressive.	9 mos.	Senile.	Neuropathic.
3817	67	Simple depression.	9 mos.	Senile.	Second attack.
3884	60	Manic-depressive.	4 1-2 yrs.	Senile.	Third attack.
3980	60	Manic-depressive.	3 mos. 3 mos.	Senile.	Admitted twice.
4004	65	Depression (suicidal).	4 mos.	Marked sclerosis.	First attack. Neuropathic.
4025	72	Depression.	8 mos.	Senile.	Neuropathic.
4034	62	Depression with confusion.	1 1-2 yrs.	Senile.	First attack.
4038	55	Depression with hallucinations.	18 mos.	Prematurely senile.	First attack.
4067	63	Depression.	17 mos.	Senile.	First attack.
4104	62	Manic-depressive.	1 1-2 yrs.	Senile—gouty, marked sclerosis.	Second attack.
4131	64	Confusion with hallucinations.	2 mos.	Senile, marked sclerosis.	Second attack.
4136	65	Confusion with hallucinations.	6 mos.	Senile, arteriosclerotic.	First attack.

tients, two of the patients had children mentally defective.

From the experience with about one hundred patients whose psychoses were observed and herein reported, the following conclusions may be drawn:—

1. True atrophic senile dementia is comparatively infrequent among the mental disorders of senility.

2. Senility is a relative term and the determination of its existence should be based upon anatomico-pathological criteria rather than on any age limit.

3. Psychoses occur during the period of senility which are not, in the strict sense of the expression, "senile psychoses."

4. The majority of mental disorders of old age are the result of arteriosclerosis of the cerebral vessels and its effects.

5. Functional psychoses, such as occur in early life, are not infrequent among senile individuals.

6. The functional psychoses which are seen in old age are likely to be of (*a*) the confusional type, (*b*) the depressive (melancholic) type, or (*c*) the recurrent manic or melancholic (manic-depressive) type.

7. The confusional and depressive types appeared to be of toxic origin, probably due to systemic vascular disease which furnished a basis for the production of toxic materials of renal, hepatic or gastrointestinal origin.

8. Of the functional psychoses of the senile period a fair percentage (twenty per cent.) are recoverable.

9. The above observation shows that the probability of recovery corresponds with the dictum of Thurnam very closely, namely; "In round numbers, of ten persons attacked by insanity, five recover, and five die sooner or later during the attack. Of the five who recover not more than two remain well during the rest of their lives; the other three sustain subsequent attacks during which at least two of them die."[5]

As a profession we have erred in the past in giving too much medicine; we err nowadays possibly in giving too little. With the development of modern pharmacology and the decline of crude empiricism; with the tendency to give a single drug to meet definite indications; with the revival of esthetic medication and the abandonment of nauseous polypharmacy, drugs are recovering their legitimate place in the therapeutic armamentarium even of the most skeptically inclined.—Alfred C. Croftan, in the preface to "Clinical Therapeutics."

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[5] J. Thurnam: Observations and Essays on the Statistics of Insanity.

THE DESICCATION PROCESS OF TISSUE DESTRUCTION AS APPLIED TO CERTAIN PATHOLOGICAL CONDITIONS. A THIRD GENERAL REPORT. ILLUSTRATED BY PHOTOGRAPHS.

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(Read in the Section on Surgery of the Medical Society of the State of Pennsylvania, Scranton Session, September 24, 1912.)

From time to time during the past four years I have reported to various local and national medical associations the results of experimental work with high-tension electric currents, the evolution of the desiccation process and its therapeutic application to certain cutaneous and mucous membrane lesions. The object of this paper is to correct possible existing misunderstandings as to the claims made for this method, and, basing judgment of its value upon personal observations in over four thousand lesions treated, to define what I believe to be its exact indications and contraindications, whether employed alone or in conjunction with operative or other measures.

In summarizing the theory, properties, instrumentation, technic, indications, contraindications, and the results of desiccation, I shall quote freely from former papers,[1] with the addition of such knowledge as has been gleaned since their presentation.

The premise is assumed that thermic effects as applied to living animal tissue are diverse, ranging in degree from simple hyperemia to carbonization. Somewhere within this scope between these extremes there is a point, the effect of which is more than hyperemia and less than carbonization, which may be termed the desiccation point. If this accurate caloric degree is produced, controlled and sustained, it will cause rapid dehydration of the part desired to be devitalized, rupturing the delicate cell-capsule and transforming it into a dry mass.

Such an effect may be obtained by the correct application of a delicately adjusted electric current of high tension. Substances such as soap, potato, raw meat, and even living tissue may be desiccated through a sheet of paper without charring or discoloring the paper, and the transformed substance may immediately be pulverized between the fingers. A small blood vessel may be desiccated through without loss of a drop of blood. For superficial dehydration the electrode and the tissue are not brought in direct contact, but an air space varying from one fourth of a centimeter to two centimeters is interposed between them. The electron waves from one pole are focused to a metal point, and under stress are projected to the tissue in the form of a fan-shaped efflux of sparks following one another with such great frequency that to the eye the appearance is about that of a luminous glow. The body acts as a capacity and partially completes the circuit; the other pole leads to the ground. When deep destruction is desired, the bipolar method is employed, the metal point being brought in direct contact with the tissue from one pole, and a large smooth metal electrode from the other pole is placed at some indifferent part of the body, preferably opposite the area under treatment. It is immaterial which pole is used, as this current is unlike the constant current, which has electrolytic properties, and polarity must be considered; whereas, the

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[1] Clark, W. L.: The Destruction of Surface and Cavity Neoplasms by Desiccation, a New Electrical Effect; a Preliminary Report, *New York Med. Jour.*, June 10, 1911; High-Frequency Desiccation, Its Uses and Limitations in Surgery and Dermatology: A Second Report, *Month. Cycl. of Prac. Med.*, Aug., 1912; Oscillatory Desiccation in the Treatment of Accessible Malignant Growths and Minor Surgical Conditions: A New Process, *Jour. of Adv. Ther.*, April, 1911; Electrical Desiccation as an Adjunct to Surgery, with Special Reference to the Treatment of Cancer, *Surg., Gyne. and Obst.*, Aug., 1912; High-Frequency Desiccation, Fulguration and Thermoradiotherapy, Their Uses in Therapeutics, *Jour. A. M. A.*, Sept. 21, 1912; The Uses of Electric Desiccation, Fulguration and Thermoradiotherapy in Surgery, Supplementary Volume of Keen's System of Surgery.

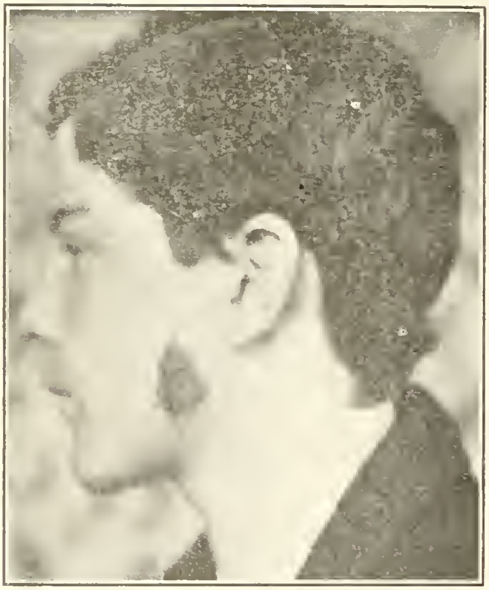

Figure 1—*a*. Congenital elevated hairy mole. One desiccation treatment.

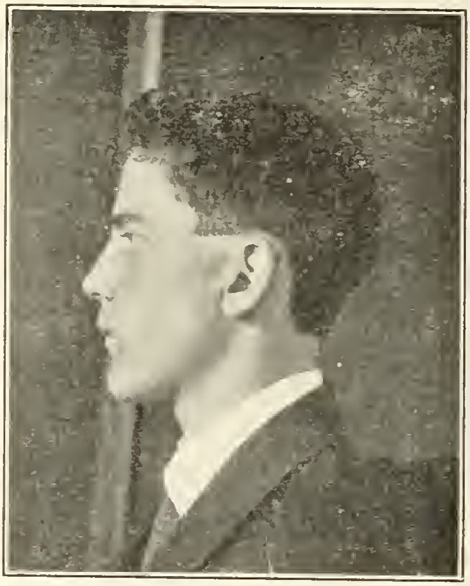

Figure 1—*b*. Appearance after one year.

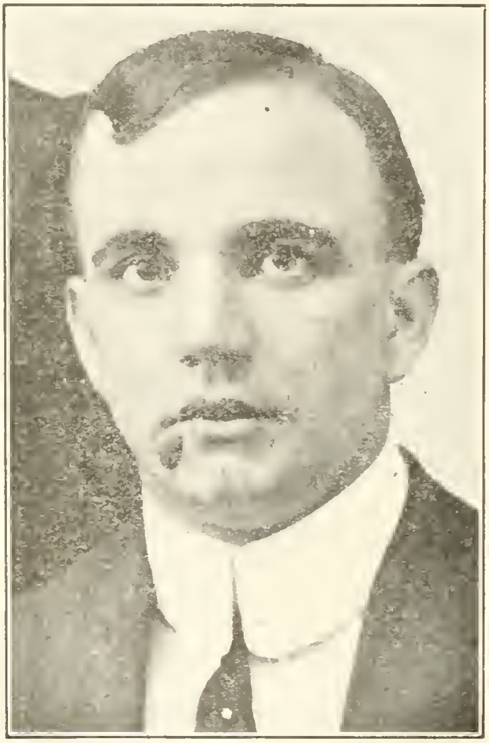

Figure 2—*a*. Congenital mole. One desiccation treatment.

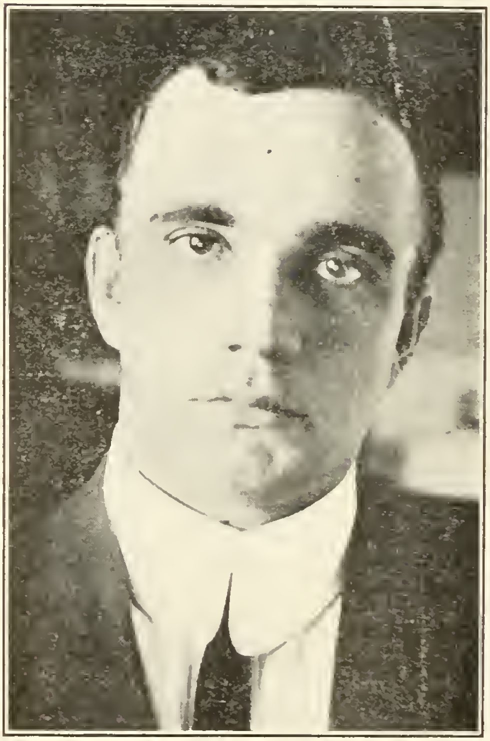

Figure 2—*b*. Appearance after one year.

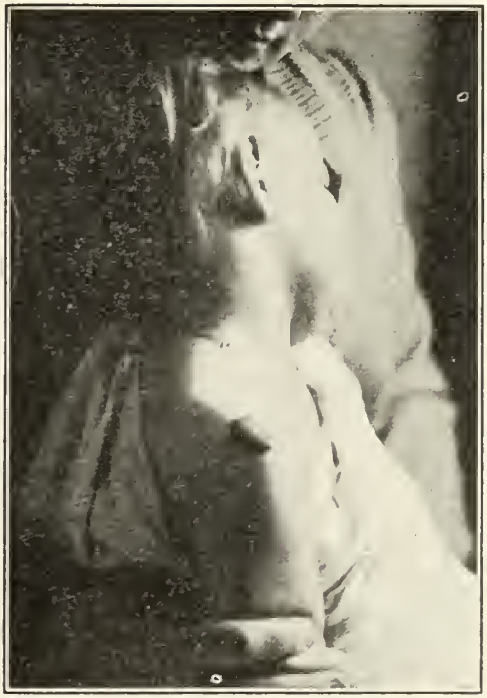

Figure 3—*a*. Referred by Dr. Horace S. Lewars, Philadelphia. Congenital elevated angioma. Three desiccation treatments one week apart.

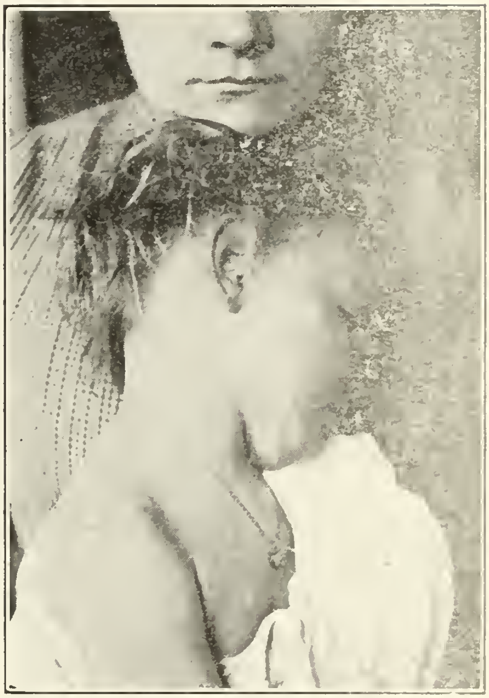

Figure 3—*b*. Appearance after six months.

desiccation current from either pole is purely thermic in action so far as can be ascertained.

A static apparatus capable of generating a large volume of current is the first requisite. This raw current could not by any manner of application produce anything approaching desiccation, but it must undergo a physical transformation analogous to the metamorphosis of a volume of water into spray or steam. This necessary transformation is brought about by introducing into the circuit two accurately measured Leyden jars (0.00042 microfarad to each jar) and a resonator correctly attuned after the principle of wireless telegraphy.

While the current generated from a coil or other magnetic device, and transformed by proper accessories, is capable of producing a coarse destructive action, the current from such a source has insufficient frequencies or oscillations, and is incapable of producing the refined desiccation effect, on account of the interruptions in the primary. This interruption in the primary of a coil is analogous to the spurting of water from the nozzle of a hose under intermittent pressure. As no discharge can be transmitted to the body until such interruption occurs, the current is delivered in a series of hot discharges, which renders the thermic degree inconstant, and the impact against the tissue painfully severe. It may be possible that the desiccation effect may be produced from one of the new interrupterless transformer types of apparatus, but up to this time it has not been done, although during the past two years several physicists have tried to work out the proposition, but were not successful. A steady flow of current as is procured from the static machine is necessary, but it must be of large capacity and subject to

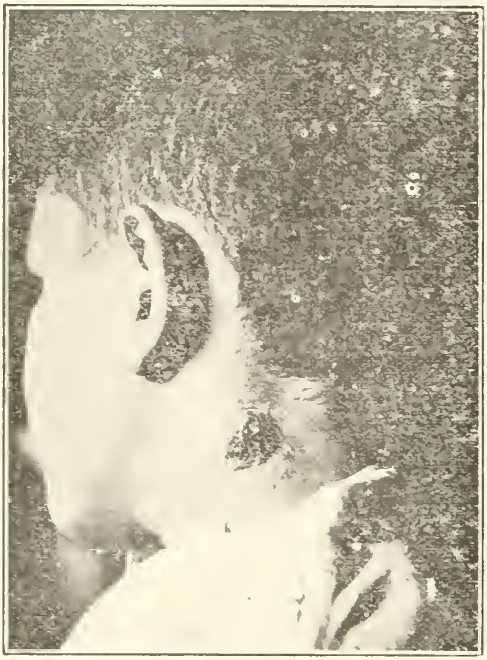

Figure 4—*a*. Large congenital elevated mole. Picture shows hard crust immediately after desiccation treatment. Three treatments, one week apart.

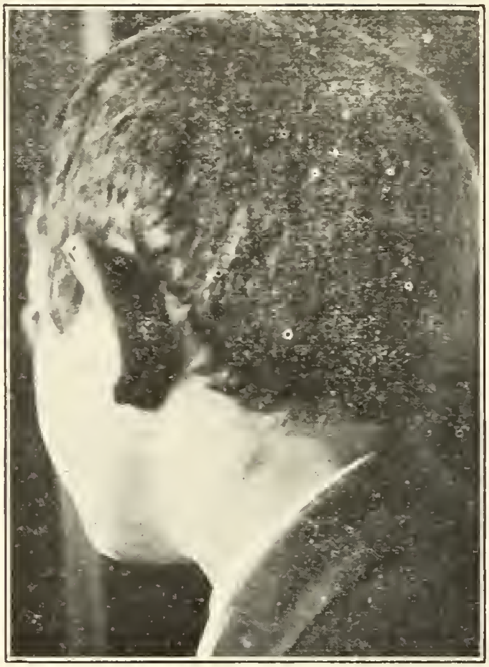

Figure 4—*b*. Appearance after three months.

perfect control, or it will fall short of or go beyond the desiccation point. The destructive effect upon tissue produced by the coil type of current may be compared to a surgical operation with a saw-edged knife, while the devitalizing effect produced with the static type of current may be likened to the more refined action of a keen-edged bistoury.

Desiccation should not be confused with fulguration, high-frequency cauterization, or diathermy, which latter term is synonymous with thermopenetration and thermocoagulation. Desiccation devitalizes by drying the tissue; fulguration shocks the tissues, produces hyperemia, and perhaps alters nutrition, but does not destroy; high-frequency cauterization is essentially the same as that produced by the ordinary thermocautery, though perhaps deeper in effect, and diathermy, though possessing the property of penetrability, is nothing more or less than a cooking process. It is possible with this same static apparatus to produce all of the effects mentioned above by modifying the application of the current. These methods all have their advantages when special indications are to be met.

The size and depth of the area that may be desiccated with one application is controlled by the operator, and depends upon the following factors: Strength of current whether monopolar or bipolar, frequency of oscillations, distance of the electrode from the body, time of exposure and density of the tissue. Desiccation is usually contraindicated in such neoplasms as are covered by healthy skin, as the skin must also be destroyed to reach the diseased tissue. It is a rule that desiccation is advised only in such lesions as when the skin is involved.

Desiccation destroys tissue without opening blood or lymph channels, and will act as a styptic when there is oozing of blood.

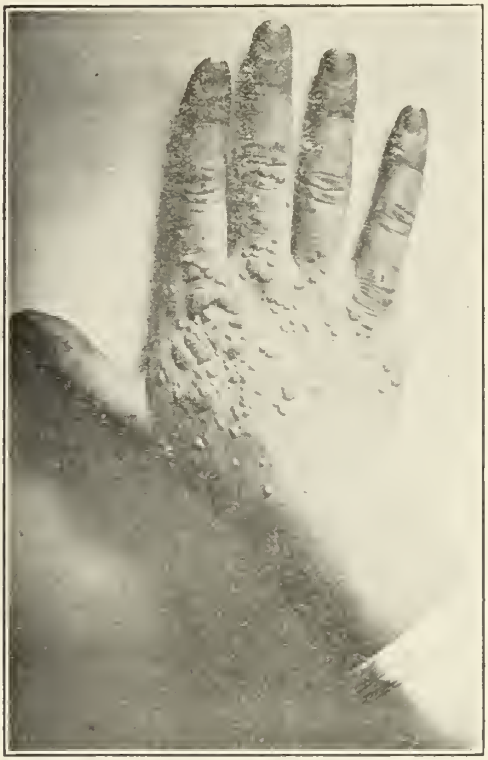

Figure 5—*a*. Referred by Dr. Thomas Bailey, Philadelphia. Multiple warts; both hands about equally affected. All warts on one hand desiccated, one application. Good cosmetic result in three weeks. For comparison, other hand treated by diffusing a paste of magnesium sulphate into the warts by means of positive galvanism. Eight treatments semiweekly of fifteen milliamperes, fifteen minutes each.

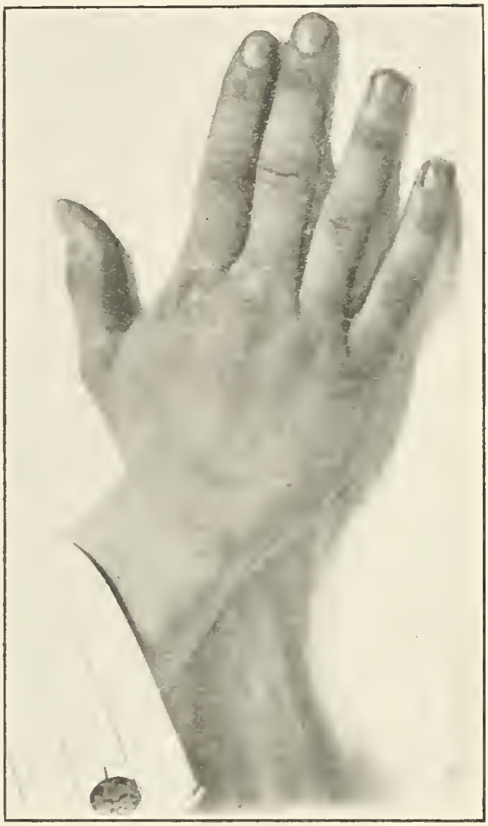

Figure 5—*b*. Appearance four weeks after magnesium sulphate diffusion; complete absorption of warts without breaking the skin.

It sterilizes all tissue upon which it acts directly, as has been shown by experimentation with cultures taken before and after treatment of an infected area of tissue.[2] The desiccated tissue acts as a foreign body and a positive chemotaxis seems to be promoted, which probably accounts for the rapid repair. The dry crust which forms acts as a natural dressing, the time of separation depending upon the character of the tissue. In the case of mucous membranes the desiccated tissue soon becomes macerated by the secretions, and may separate in one day, while on the skin surface it takes from three days to one week. When the tissue is soft and vascular there is more rapid separation than when it is hard and with poor blood supply. Thus, a soft mole will slough more readily than a hard callosity. Regeneration of skin or scar-tissue often takes place underneath the crust; the procedure is not very painful if applied with correct technic. In supersensitive individuals a local anesthetic is employed, either by topical application in the case of mucous membranes or ulcerated surfaces, or by infiltration if the area is extensive and deep, although the latter is seldom practiced when there is a suspicion of malignancy; cocain driven into the tissue by positive galvanism is used in preference. In rare cases a general anesthetic is required; nitrous-oxid gas is preferred, al-

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[2] See preliminary report.

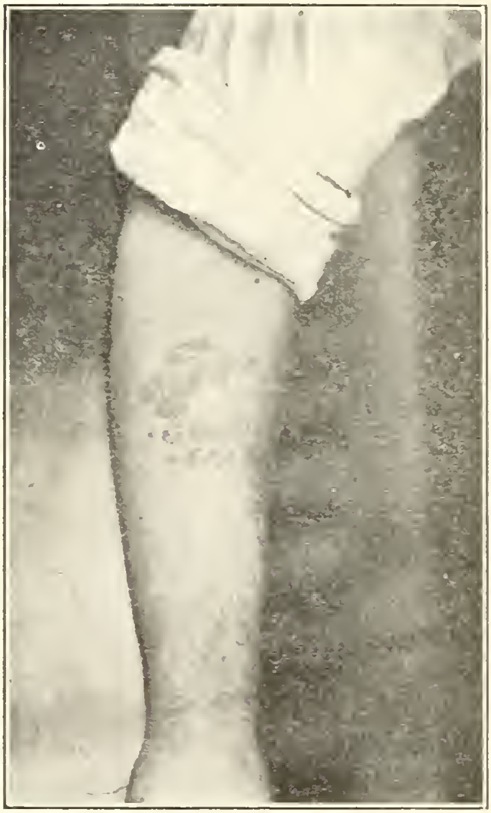

Figure 6. Experimental destruction of portion of tatoo mark, with the remainder left for comparison. The area treated will be seen to be perfectly smooth, not contracted, elevated or depressed, but sligthly bleached. One desiccation application.

though sometimes chloroform may be used; ether should never be considered on account of its inflammable properties.

In defining the conditions for which desiccation is indicated, general terms will be used, and classifications omitted for the sake of brevity.

Warts, Elevated Moles, X-Ray and Senile Keratoses. Usually one application only is necessary. A dry crust at once forms which is allowed to loosen by the natural process, when it is gently removed. Force in removal should not be practiced as bleeding might ensue. There is often regeneration of skin underneath the crust, and too early removal might destroy it.

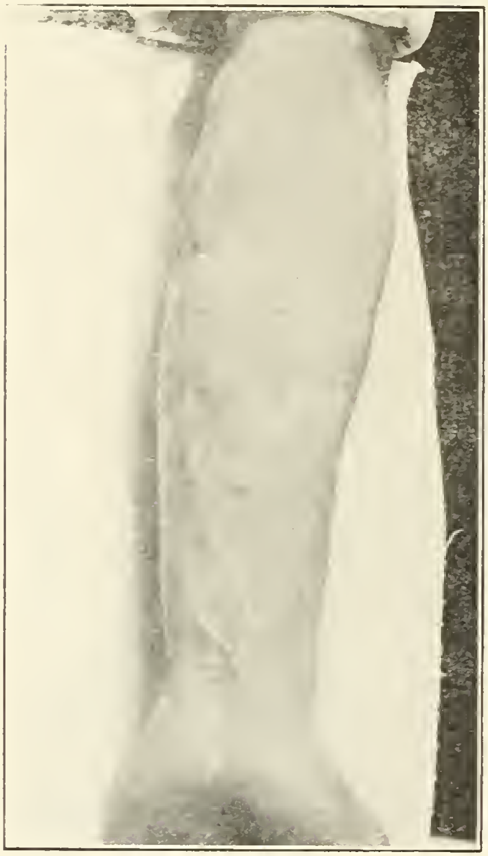

Figure 7. Large deep tattoo mark of an eagle. Photograph before treatment unfortunately not taken. One desiccation application. Picture taken three years after treatment shows no pigmentation. Outline of original tattooed area can be seen. Slight irregularity of skin surface; no contracture.

The area which is at first slightly red, gradually fades to normal color. There is never a contracture as is often the case with cauterization, but a smooth surface should result if the technic is correct. There seems little doubt as to the wisdom of advising the removal of these lesions for other than cosmetic reasons, as it is a well-recognized fact that sometimes carcinoma and sarcoma have their premalignant stage in an apparently innocent wart or mole.

Congenital Nevi and Acquired Pigmentations, Such as Tattoo Marks, Etc. The results in these conditions have been

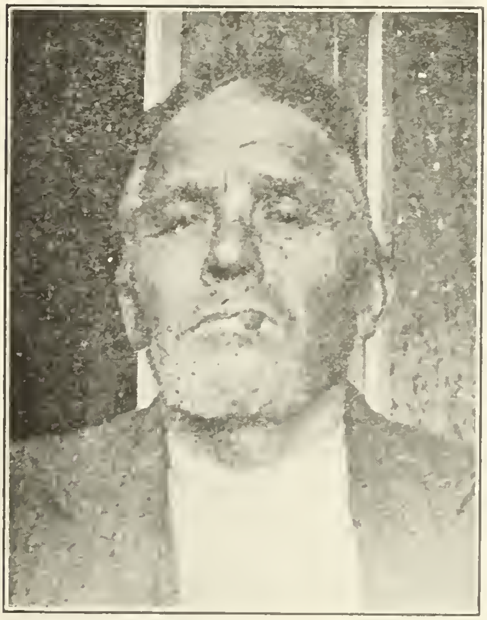

Figure 8—*a*. Referred by Dr. H. K. Longshore, Glenside. Carcinoma of lip. Submaxillary glands on both sides palpable. Section taken and examined by Dr. Milton Meyers, Pepper Laboratory, University of Pennsylvania. One desiccation treatment, January 9, 1912.

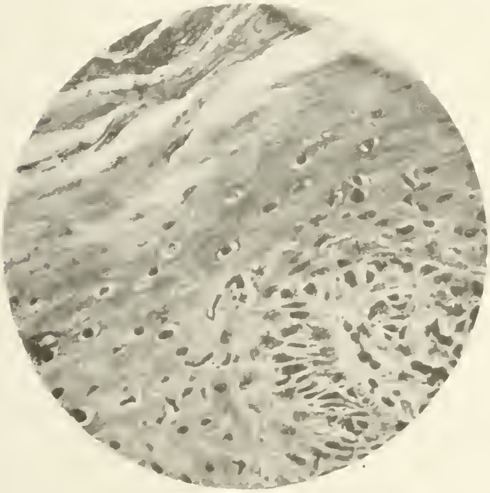

Figure 8—*b*. Microphotograph of section.

satisfactory in the limited number of cases attempted. More than one application may be advisable, depending upon the size and depth of the lesion. When these lesions are superficial, new skin is formed, when deep, scar tissue or a combination of skin and scar-tissue. The cosmetic effect depends upon the character of the lesion and the necessary depth of destruction. Care must be taken to destroy the tissue perfectly evenly and not too deeply, as there may be irregularity of surface, and if the spark is too hot, possibly a keloid. The latter condition may be avoided I think in all cases by a few subsequent applications of the *x*-rays.

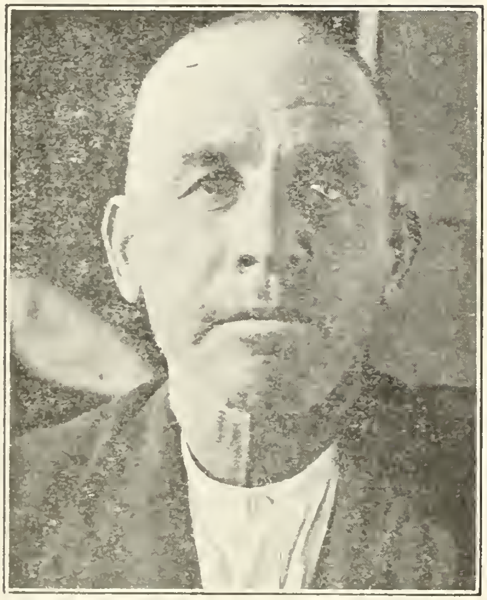

Figure 8—*c*. Photograph taken November 15, 1912. No vestige of original growth, and glands not palpable.

Chronic Varicose and Other Granulating Ulcerations. The excessive granulations are first destroyed by desiccation. For a few days following this treatment the ulcer is stimulated by mild Oudin high-frequency sparking. A normal saline dressing is used continuously until healing is advanced. Several cases which had resisted ordinary methods of treatment healed rapidly after having been treated by the method outlined.

Acne Vulgaris. Each acne lesion is bombarded with a short attenuated spark of the same type as is used in desiccation. With this spark destruction of tissue does not result. The sparking is continued un-

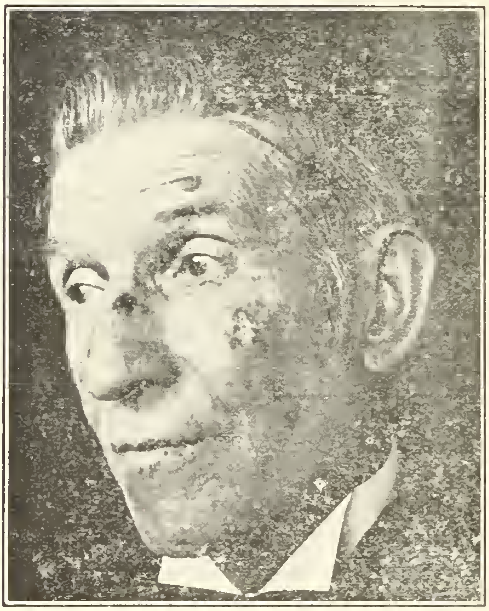

Figure 9—*a*. Referred by Dr. Edward B. Finck, Philadelphia. Ulceration of cheek, one and one half years' standing. Encrusted ulceration on nose, and keratosis above eye. In my opinion, undoubtedly malignant. One desiccation treatment.

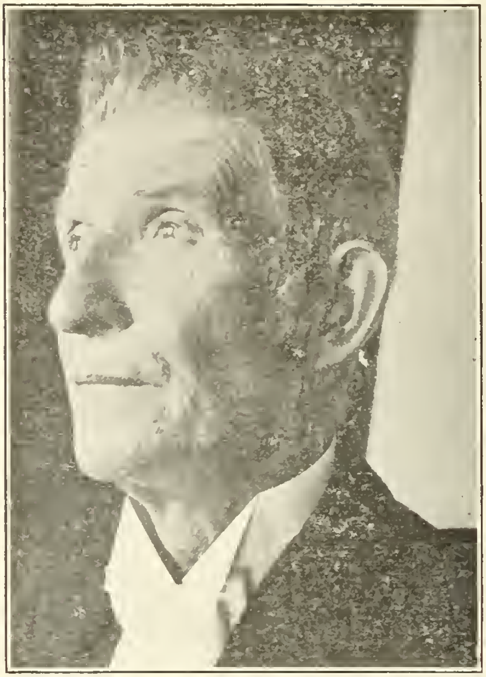

Figure 9—*b*. Appearance after eight months.

til the lesion and surrounding tissue is markedly anemic; in the course of a few minutes the area treated becomes intensely hyperemic. Improvement often takes place within one day after the initial treatment. These applications are usually given semiweekly, and in one month or even less time, some very refractory cases have responded. This method is looked upon by me as being almost a specific when applied in conjunction with proper constitutional and hygienic measures.

Keloid. Desiccation followed by the *x*-rays has been found to be a successful treatment. The same results might be obtained by the *x*-rays alone, but it would take a longer time. I think a better cosmetic result may be obtained by preceding the *x*-rays by desiccation rather than by excision.

Chancroids. These lesions may be treated by desiccation without the usual extreme inflammatory reaction resulting from the actual cautery or chemical escharotics.

Neoplasms in Some Hollow Viscera: Bladder. Using a catheterizing cystoscope, the bladder is first filled with sterile water or boric acid solution. Then a wire insulated to the end is passed through the instrument and brought in direct contact with the growth, which may be destroyed in one or a series of applications, depending upon its size. The current and destructive action is always under control of the operator. The current ordinarily used for desiccation is intensified on account of the fluid medium, therefore, the effect can not be looked upon as true desiccation, but approaching nearer to cauterization, or thermocoagulation. This work may, however, be successfully done by the high-frequency cauterization method, as has recently been reported by various surgeons, but I believe the intensified desiccation current

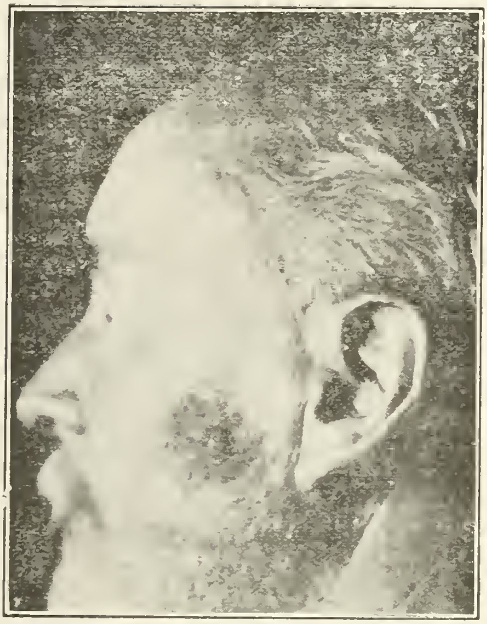

Figure 10—*a*. Referred by Dr. Z. B. Babbitt, Washington, D. C. Irregular elevated pigmented mole. Had taken on rapid growth the past year. Undoubtedly, in my opinion, malignant. One desiccation treatment.

may be employed with a greater degree of safety.

Papilloma, Caruncle and Granulations in the Urethra. A stiff insulated wire is passed through the treatment aperture of an air inflation urethroscope, as is done with the applicator in making topical applications. Papilloma, caruncle, and chronic granulations following Neisserian infection or other causes may be destroyed, and perhaps there is sterilization somewhat deeper than the area destroyed on account of heat penetration. The advantage of this treatment over the cautery and chemical escharotics, is that the inflammatory reaction is less, and there is no contracture, rendering stricture less likely. If these lesions are near the external meatus, a urethroscope is not necessary. One extremely severe case of old gonorrheal granulations in the posterior urethra that had resisted treatment by the usual methods for five years, apparently yielded to one application. Dr. B. A. Thomas of Philadelphia assisted in the operation.

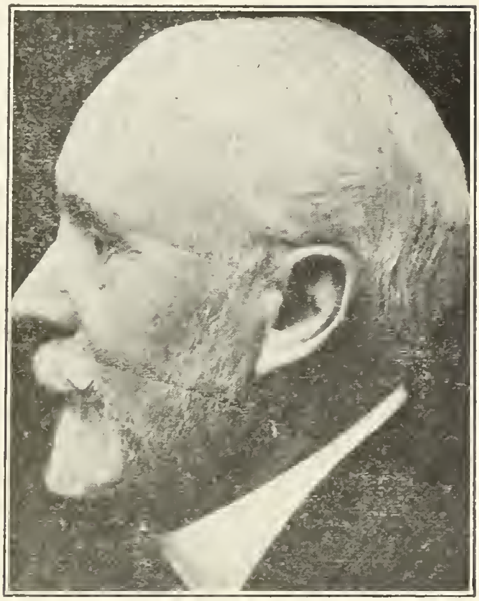

Figure 10—*b*. Appearance after seven months.

Larynx. In suitable cases tumors of the larynx may be destroyed by desiccation. The straight laryngoscope or the ordinary laryngeal mirror may be employed to expose the interior of the larynx, and the current applied by means of an insulated wire suitably curved. A large papilloma of the larynx, causing serious impairment of voice in a young man, was twice instrumentally removed, with rapid recurrence. The desiccation treatment was applied six times averaging one week apart. There was total disappearance of the papilloma, and it had not recurred in nearly a year. His voice improved very much, but there was still some abnormality in speech, because of a former contracture of one of his vocal chords. Dr. Benjamin Parrish of Philadelphia assisted in the application.

There is reason to hope that with improved endoscopes the future may show desiccation to be applicable to some neoplasms in the esophagus and stomach.

Throat and Pharynx. Benign neoplasms

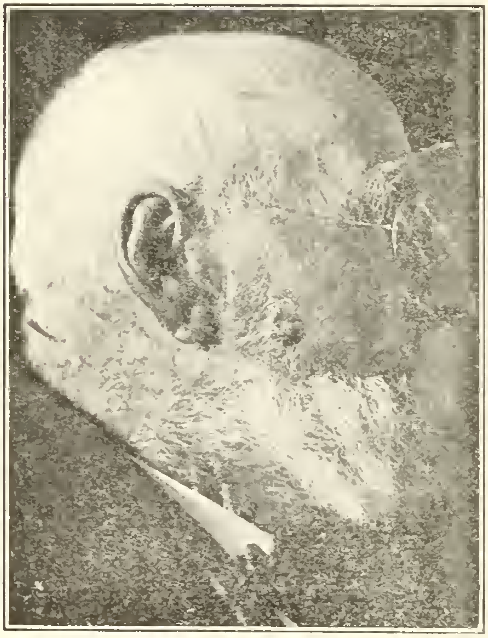

Figure 11—*a*. Referred by Dr. Philip Steelman, Linwood, N. J. Epithelioma on cheek; two years' standing. One desiccation treatment.

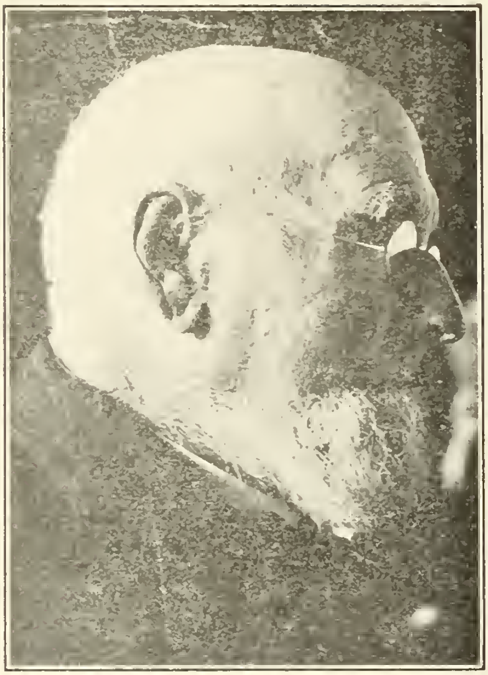

Figure 11—*b*. Appearance after two years.

in the throat are quite accessible, and may be destroyed by desiccation. Soft mucous membrane growths respond readily. The whole or a portion of diseased tonsils may be desiccated without loss of blood, and the operation is made quite bearable by applying a ten per cent. solution of cocain. My experience with tonsils has been limited, and I would not care to say that desiccation has any advantage over ordinary enucleation, but I think, should there be any contraindication to operation, that desiccation may be relied upon as a worthy substitute. An elongated uvula may be shortened, and granulations in the pharynx may be destroyed. Adenoids are inaccessible and have never been treated by desiccation. In young and nervous children operative measures are to be recommended in preference to desiccation in throat conditions, because a general anesthetic must be used. Chloroform in the presence of unusual heat gives off hydrochloric acid and chlorin fumes, and ether may not be used on account of its inflammability.

Nose. Sessile growths in the anterior nares, such as polyps, angiomas and papillomas, are accessible and may be destroyed by desiccation. In pedunculated neoplasms the snare is recommended to be used primarily, after which the base should be immediately desiccated to stop hemorrhage, and to lessen the likelihood of recurrence.

Ear. My experience has been limited to granulations on the membrana tympani, with the exception of small growths on the external ear. Desiccation is a simple and effective method of destroying these granulations.

Eye. Desiccation may be applied to the lids for xanthoma, verruca, nevi and epithelioma; to the conjunctiva for trachoma, dry granular conjunctivitis, papilloma, ulcerations, pterygium, and perhaps some other lesions. An ophthalmologist, who had referred to me a case of granular conjunctivitis, said as much had been accom-

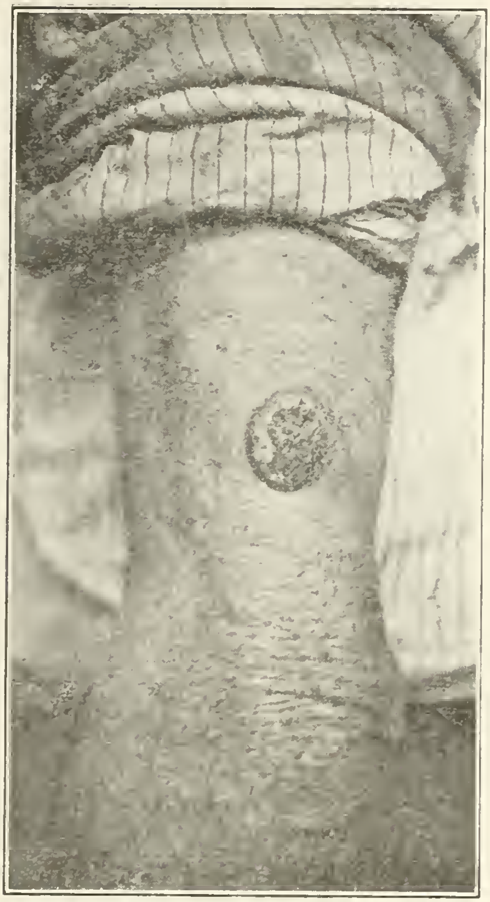

Figure 12—*a*. Referred by Dr. William Ryan, Philadelphia. Oil worker; epithelioma on arm. First excised and then desiccated. Diagnosis made after examination of section by Dr. Milton Meyers.

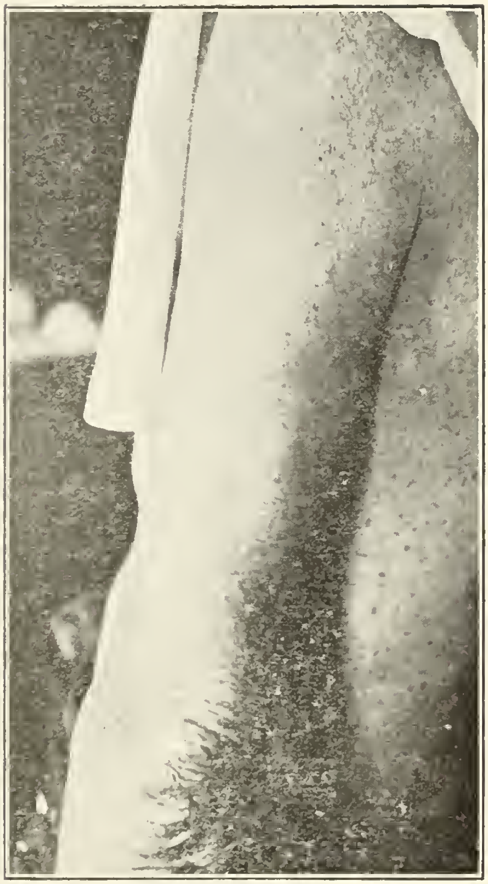

Figure 12—*b*. Appearance after fourteen months.

plished by one desiccation treatment as he could hope to accomplish in three months by the application of silver nitrate. While a patient was under desiccation treatment for an epithelioma situated near the inner canthus, with some involvement of the bulbar conjunctiva, a large pterygium was desiccated with excellent result. There is little danger in working near the eye, as the control of the desiccation current is practically perfect.

Cancer. Desiccation should be employed alone only in epitheliomas that have not invaded deep structures. The destruction should be thorough and carried beyond the diseased area into the adjacent normal tissue for a short distance, as a safe measure. Blood and lymph channels are apparently sealed, which would seem to render metastasis less likely. I think it is advisable in all cases of malignancy, no matter how superficial, to follow the desiccation treatment with a short course of the *x*-rays as a safe precaution to guard against possible lurking morbid cells. This may not always be necessary, but it is best to err on the safe side. The results up to this time have been satisfactory in this class of cases. In advanced epithelioma in which there is deep involvement of tissue, but not associated with glandular metastasis, curetage or ex-

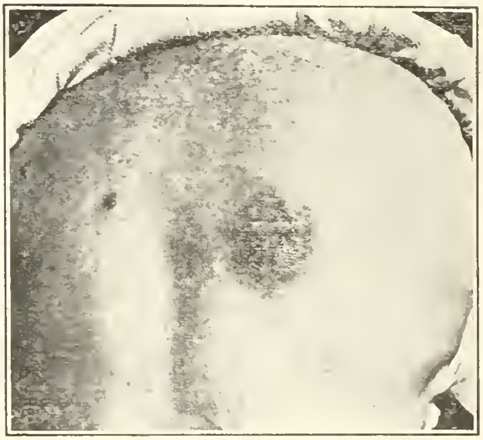

Figure 13—*a*. Referred by Dr. Samuel E. Walker, Philadelphia. Ulcerated tumor located just internal to angle of scapula. Malignant in appearance. Two desiccation treatments one week apart.

cision should be practiced first, and I think it is an advantage to follow it immediately with desiccation. It is employed in such cases only when the wound is left open; when it is necessary to close the incision, as in most cases of mammary cancer, or the cervical glands, desiccation treatment is not to be recommended, because of insufficient drainage of the resulting débris. De Keating-Hart of Paris has presented what appears to be good evidence that fulguration is of some value in the latter class of cases.

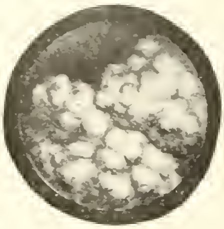

Figure 14—*a*. Referred by Dr. Edward Martin, Philadelphia. Large bladder papilloma obscuring the right ureteral orifice. Patient sixty-five years old. Severe hemorrhages for eight months; almost exsanguinated from loss of blood, and could hardly walk. Thirteen intensified desiccation treatments, averaging one week apart, applied in conjunction with Dr. B. A. Thomas. Picture drawn through cystoscope by P. P. Chase, artist to the Pepper Laboratory, University of Pennsylvania.

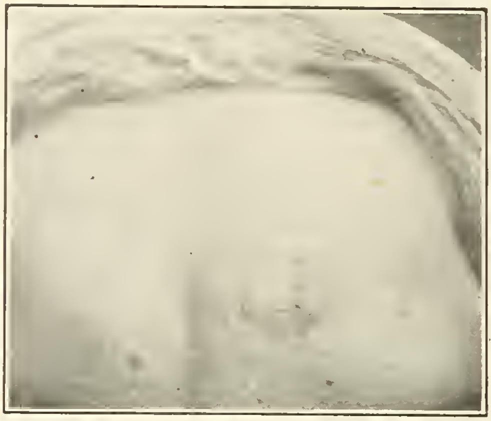

Figure 13—*b*. Appearance after three years.

In cancer of the cervix, if inoperable, desiccation as a palliative measure perhaps has some advantage over the curet and cautery, for the reasons that a general anesthetic is unnecessary, there is less inflammatory reaction, which seems to be an advantage because it is generally accepted that irritated or hyperemic tissue is favorable soil for the progression of cancer; it destroys as effectively, sterilizes, deodorizes, will stop bleeding, and there is no odor of burning flesh. Erosions of the cervix may be treated by desiccation as a prophylactic

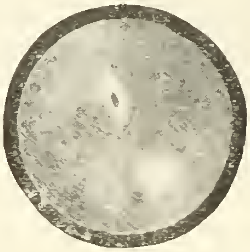

Figure 14—*b*. Total disappearance of papilloma, showing ureteral orifice which was formerly obscured. Hemorrhage entirely ceased after second treatment, and patient rapidly recovered normal health and strength. Recurrence the size of a pea after eighteen months; controlled by three applications.[3]

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[3] By further increasing the intensity of the current, the same result can be obtained with fewer treatments, as shown in the case of a larger papilloma of the bladder than the one shown above, treated in conjunction with Dr. George Dorrance, and destroyed with four applications. Complete arrest of severe hemorrhages with no recurrence five months after treatment.

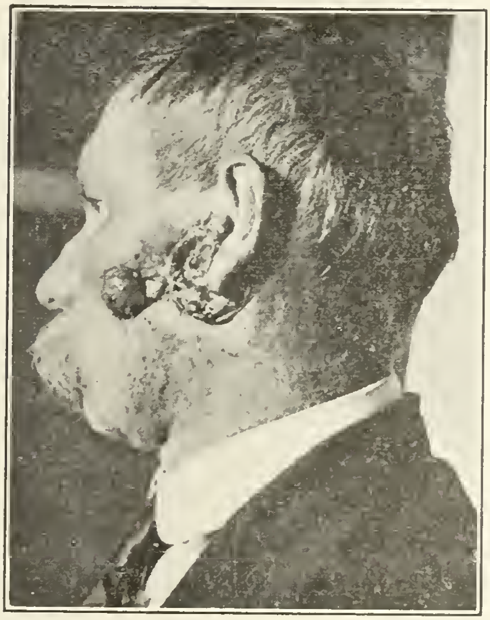

Figure 15—*a*. Referred by Dr. Bernard Mencke, Philadelphia. Inoperable parotid carcinoma. Extensive bone and glandular involvement; rapidly growing bleeding granulations; very offensive odor and full of maggots. One desiccation operation.

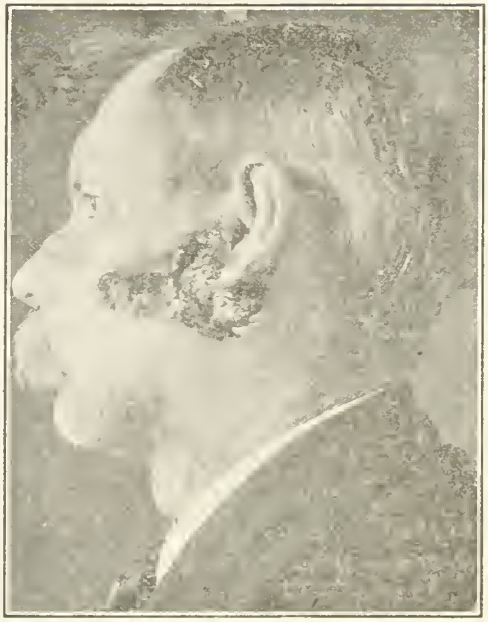

Figure 15—*b*. Appearance three days after desiccation. Three subsequent similar treatments were supplied as the granulations recurred, with much comfort to the patient. Treatment was given with no hope of cure, but simply with the idea of palliation, destroying granulations, deodorizing, promoting personal comfort, and perhaps prolonging life.

These two pictures exemplify the penetrating action of desiccation, and that, if desired, a large area may be destroyed with one application.

measure against cancer.

In cancers of mucous membranes, such as the tongue, buccal surfaces or the lip, unless seen fairly early, desiccation is not recommended to be employed alone, because it is the belief of many surgeons, and perhaps is a fact, that the glands are sometimes involved, even though they may not be palpable. I wish it understood that the diseased tissue must be accessible if the best result is to be expected with desiccation. I believe, then, the correct procedure is complete extirpation of the initial lesion and thorough excision of the glands likely to be involved, followed by desiccation if the wound is left open, by fulguration if sutured, and finally in all cases by the *x*-rays.

It has been difficult to condense into a general report all that is desired to be said of the desiccation process, but it is hoped that sufficient data has been given for a clear understanding of my idea of its true status in therapeutics. The pictures typify fairly well the curative and cosmetic results that may be expected of this method of treatment, although many better examples are lost through failure to take photographs.

I wish gratefully to acknowledge the cooperation of those of the medical profession from various parts of the country, who supplied material for the advancement of this work. I desire also to acknowledge my obligation to Mr. Burton E. Baker and Mr. Robert H. Willmont, electrical engineers, for their valuable advice and assistance in constructing, for me, efficient apparatus.

"Nothing is impossible to industry."

EARLY PARESIS.

BY ALFRED GORDON, M.D.,
Neurologist to Mount Sinai, Northwestern General and Douglass Memorial Hospitals, Philadelphia.

(Read in the Section on Medicine of the Medical Society of the State of Pennsylvania, Scranton Session, September 26, 1912.)

The clinical picture of paresis in the period of its full development is so characteristic and typical that in the largest majority of cases its recognition presents no difficulty. The same can not be said of the prodromal or earliest stage of the disease. There the symptoms may be so slight that they can be easily overlooked. From its very onset the affection is insidious and slow; nevertheless, it is invariably progressive in its evolution. In some cases the process may be so slow that the earliest manifestations are not recognized and proper measures are neglected, which may lead to deplorable consequences. The patient is permitted and even encouraged to be at large, to travel, to exercise, to undertake great enterprises, to teach, to transact business, to govern and even to make laws. It is only when grave and irreparable errors are committed that attention is drawn to the patient's condition and alarm is sounded. To illustrate:—

A young man was addicted to venereal excess for several years. He soon began to complain of headache and exhaustion upon the least exertion. He was advised to lead an outdoor life, to exercise physically as much as possible. The condition naturally grew worse. For days at a time he would be unable to get out of bed. He began to lose interest in his surroundings, began to be forgetful. The diagnosis of neurasthenia was still made, and it was again insisted upon that he be about. Thus he took trips in company with a friend. Soon he developed attacks of a special nature. Suddenly, in the presence of people he would exhibit his genitalia. An attack lasted not longer than a fraction of a minute. It was evidently accompanied by a loss of consciousness. When he regained consciousness, he found himself with the exposed genitalia and could not understand how it happened. Once he was arrested, as an attack happened in the presence of women. The patient's relatives were inclined to consider the exhibitionism as a return to his exaggerated venereal tendencies, for which he was well known before the neurasthenic manifestations made their appearance. In reality, this peculiar conduct was a condition of petit mal and the entire picture of the case was nothing else but the early phase of paresis; subsequent events proved it to be correct.

The recognition of the prodromal and of the earliest manifestations of paresis is of the utmost importance, as this malady is of the gravest nature and its progressive course can be delayed by proper measures taken at the proper time. Experience shows that the so-called remissions, viz., temporary lucidity of mind with general improvement, occur very frequently in cases which have been recognized at the earliest possible moment when proper treatment could be instituted. It is therefore highly important to call attention to the initial condition of a paretic, long before the gross and evident symptoms of the disease become too apparent to make any one hesitate in making a diagnosis.

Paresis may begin either with psychic manifestations or with motor symptoms. In the majority of cases both make their appearance simultaneously. In my series of fifty-nine cases, studied for a period of several years from the standpoint of its early period, thirty-nine presented motor and mental phenomena at the same time. In fourteen patients the paresis began with purely mental phenomena, and for weeks did not show a single classical motor sign of the disease. Only in six cases the symptoms were purely motor before the mental picture commenced to make its appearance.

PSYCHIC STATUS IN EARLY PARESIS.

The essential psychic manifestation in early paresis is the slow irregularly progressive dementia. As the most delicate and the highest mental functions are invaded the earliest, it is evident that they will be more noticeable in persons of culture than in individuals of gross cerebration. It is in the fulfillment of fine acts, of acts necessitating the most delicate discrimination, that lapses and omissions will be observed.

The most important mental faculty is usually affected very early in the disease, viz., memory. Amnesia may be very slight at the onset of paresis and as it is manifested only at intervals in words or acts, it is overlooked and the individual continues for a long time to do his habitual amount of work. At first the deficient memory concerns only events acquired recently, viz., from the onset of the disease (anterograde amnesia), but soon it embraces also the facts which occurred prior to the onset (antero-retrograde amnesia). The patient shows omissions in his daily work, errors in calculating, his writing shows lapses and repetitions in letters, later in syllables and then in words. The amnesia leads to a certain nonchalance and neglect in his own appearance, and a certain lack of harmony in the details of his own manner of dressing. It explains the most absurd and bizarre acts in his behavior, etc. Punctuality and regularity of habits are being neglected and the individual becomes indifferent and apathetic. The usual prudence and reservation of language is replaced by a certain loquacity, unreasonableness and paradoxical argumentation. The majority of paretics in the early periods of the disease are conscious of their defect of memory and this was the case in forty-five of my fifty-nine patients. But what is here particularly striking is that they are in no way affected by the amnesia, they are not disturbed by it in the least. They do not endeavor to avoid their errors, they even ridicule their own mistakes and, if occasionally a serious mistake strikes their mentality and disturbs them, it is only for a very brief period of time. This indifference towards the amnesia is a very characteristic sign of early paresis.

Simultaneously with the changes of memory, the character, disposition and the moral personality undergo significant alterations. The previously cheerful individual becomes oppressed; he is unduly irritable; his mood is changeable; he becomes apprehensive, has morbid fears, he begins to show indifference to everybody and everything that used to be of interest to him, he begins to be neglectful of his duties, of his own home, of his own welfare, of his own appearance. His indolence and apathy continue to increase. The entire picture of the condition reminds one of the neurasthenic symptom group, but this resemblance is only apparent. A depressed early paretic has usually some neurasthenic manifestations, but also other important characteristic phenomena. The differential diagnosis is here of utmost importance. It will be discussed later.

In other cases a totally opposite condition is observed. The usually conservative man has become exuberant in actions and spirits, he plans ambitious schemes, spends money in an unusual way, purchases articles which are of no special use to him or to his family. The habitually economical individual becomes extravagant, spends money without taking into account his circumstances. This exaltation is manifested not only in the intellectual and motor spheres, but also in the affective sphere. The paretic is self-contented, euphoric, optimistic and this is manifested in his attitude, language and demeanor. There is a tendency to excesses, alcoholic and sexual. As the moral sense undergoes gradual changes, immorality is the natural consequence; sexual perversion is a not infrequent phenomenon in the expansive form of early paresis. The break in the moral equilibrium and the alterations of the entire moral personality occurs quite early and long before the intelligence is seriously affected.

The exuberance or exaltation observed in this category of patients lacks in depth; it is superficial, incoördinated, without a system, and without consequences. The psychomotor faculties are augmented quantitatively but not qualitatively. The expansive early paretic with all his agitation is not capable of accomplishing much. The contrast between what he appears to be able to do or between what he promises to do and what he actually does is striking. He is easily fatigued from the least exertion. He is always ready to undertake work, but as soon as he commences it he must give it up promptly, as he is physically and mentally unable to persist in it.

On the other hand the inability of the patient to recognize or realize his infirmity in spite of the cheerful or exuberant spirit is also a most characteristic feature of paresis. He does not appreciate the fact that he is ill, that he can not continue his usual occupation and that he actually fails in performing his work. The difficulty of comprehension of this morbid symptom is the most striking phenomenon, even in the early period of the disease. What is still more pathognomonic in paresis is the precociousness of the defective faculty of criticism, especially the patient's criticising their own acts and conduct. Confronted with the most objective and evident manifestations of their malady they are not in the least affected. They do not pay the slightest attention; they rather ridicule them and give the most childish and absurd explanations of them. Or else they may at first become serious and apparently affected, but promptly the disturbance is all forgotten. Otherwise speaking, the paretic becomes an altogether different individual, without noticing it or without being affected by it.

The defective memory, the weakened faculty of attention, of observation, of reflection, of judgment, of criticism: the perversion of the moral sense, of character, of disposition: the radical change in conduct in comparison with the conduct prior to the onset of the disease—all these symptoms, together especially with the inversion of the affective faculties, constitute the most characteristic psychic manifestations of the early period of paresis.

Let us turn our attention to the somatic symptoms. There are three groups of somatic manifestations that not infrequently announce the oncoming paresis. They are apoplectic and epileptic seizures and attacks of aphasia.

The apoplexy may consist only of a sudden mental hebetude or confusion or else of a genuine loss of consciousness followed by monoplegia or hemiplegia with or without aphasia. The apoplectic insult is usually brief in duration and the paralysis accompanying it is temporary, transient; rapid improvement and recovery usually follow. In my series of fifty-nine cases, studied particularly from the standpoint of the early paresis, apoplectic seizures occurred only in eleven patients before the characteristic symptoms made their appearance. Some of these patients had at various intervals two or three attacks from which they almost all recovered promptly.

Epileptic seizures are another occurrence of early paresis. They were observed in twenty patients. The petit mal form predominated, although four of them had genuine major attacks of the generalized type. In three patients the sensory localized type was observed. It consisted of sudden paresthesia, such as tingling or burning in one hand, in one leg, on one side of the face including the same side of the tongue. Some authors report attacks of some automatic movements, such as suction, deglutition, mastication. Séglas[1] reports an interesting case of spasmodic contractions of the muscles of deglutition, as an early symptom of paresis.

Vertigo is another manifestation occurring in early paresis. It occurs in attacks of very brief duration. Possibly they are but a variety of petit mal.

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[1] *Semaine Medicale,* Jan., 1899.

Aphasia is an interesting phenomenon which occurs in the prodromal period of paresis: It may happen without a hemiplegia or monoplegia. The motor form is the most frequent. In ten of my patients it was exclusively motor. The attack is sudden and rarely complete. It is transitory but it has a tendency to recur. Some of my ten patients had as many as eight and not less than two attacks. Sensory aphasia has been observed by some writers, but then the paretic picture of the oncoming dementia becomes complex if the impairment of the sensory speech persists.

While in the majority of cases the aphasia is temporary, in certain cases actual material lesions have been found in the corresponding areas of the paretic brains.[2]

It was interesting to me to observe that those of my patients who presented apoplectic, epileptic and aphasic manifestations developed a more rapid course of their affection than those who were free from those symptoms. Moreover, the usual physical signs of paresis predominated in them over the psychic disturbances.

Charcot as far back as 1887[3] called attention to ophthalmic migraine as an early sign of paresis. In two of my patients neuralgia of left supraorbital nerve was present at the same time as psychic manifestations.

Among the very early somatic symptoms of paresis the most frequent is the condition of the pupils. In fifty out of fifty-nine patients the pupils were found irregular and especially unequal. This in my judgment can be considered as almost pathognomonic of the disease. The sluggishness of the light reflex is another frequent sign although not as frequent as the preceding one.

In a large number of my cases, thirty-nine, various palsies of the external ocular muscles occurred at different times, but in the majority of cases they were only temporary. In some, however, the palsy remained unameliorated. A great many patients complain of gastrointestinal disorders during the early period of paresis when other neurasthenic manifestations are present.

Forty-five of my patients presented increased patellar tendon reflexes; ten showed markedly diminished and five showed normal knee-jerks. In none of the cases [illegible] knee-jerks was the Babinski detected, but the paradoxical reflex described by the writer was present in twenty-three of them. In my previous study of the subject the percentage of the paradoxical reflex was higher[4] but that study was made on individuals with fully developed paresis.

The characteristic speech disturbance which is [illegible] frequently observed in paresis during [illegible] phase of full development, is but occasionally seen in the early stages. The typical fine tremor of the hands, lips and tongue, which belongs to the classical signs of the disease, is equally seen only occasionally in the early period, although more frequently than the speech disturbance. In my series, only twelve showed a fine tremor [illegible] fingers, but not of the lips or of [illegible] tongue.

Summ[illegible] constant and characteristic symp[illegible] of the early phase of paresis are first [illegible] the psychic disturbances which [illegible] essentially of gradual alterations in the intellectual and moral personality. Lapses of memory, errors in the work which the individual has been accustomed daily [illegible] perform, rapid loss of acquired habi[illegible]ference and indolence to the ones d[illegible] and nearest as well as to his own personality, loss of the usual prudence and [illegible]rvation, defect in moral conceptions, with all this either a state of depression or else exaltation accompanied by an unusual euphoria and optimism—these are the conspicuous signs indicative of oncoming paretic dementia. But what particularly characterizes the early paretic is first his inability of recognizing the morbidity of all these alterations in his personality, secondly the total lack of criticism of his own acts and conduct.

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[2] Sérieux-Société Neurologique, Mars, 1900; Jeffroy: Soc. Méd. des hôpitaux, 1902; Ballet: Société de Neurologie, 1900.

[3] Lecons du Mardi, 1887-88.

[4] *Jour. of Nerv. and Men. Dis.*, 1907.

The apoplectic, epileptic and aphasic manifestations must be of brief duration to be characteristic of early paresis. The inequality and irregularity of the pupils are another diagnostic sign of the early period of paresis.

The knee-jerks are frequently altered, but they do not constitute a characteristic feature for diagnostic purposes.

Differential Diagnosis. Paresis may begin with pronounced somatic manifestations, such as epileptic or apoplectic seizures. When the latter are brief in duration and repeat themselves frequently and remain persistent, an oncoming paresis should be suspected. In the majority of cases the onset is insidious and slow, particularly in the depressive form. In such cases the symptom group resembles, at first glance, that of neurasthenia. In my series of fifty-nine patients, twenty-two were considered as neurasthenics and treated accordingly. It is therefore highly important for practical purposes to consider the symptoms common to both affections and to emphasize the differentiating features.

First of all, the general asthenia, some impairment of memory, the irritability of character, the loss of energy and ambition, are all manifestations observed in both maladies. But a closer discrimination will reveal a fundamental difference. A neurasthenic is capable of presenting a most detailed account of his ills. It is true, he exaggerates his symptoms, nevertheless they are recited in the most connected manner. The patient repeats often his recital, but this repetition is not because of a genuine amnesia, but because he is anxious to analyze his troubles and to draw his physician's special attention to them. Otherwise speaking, the neurasthenic appreciates very keenly his illness. The early paretic is incapable of giving a connected history of his trouble. He frequently interrupts his speech and forgets what he said previously. When reminded he does not attach much importance to it. It is exceedingly easy to make him change the train of his thoughts which are indeed unstable. Frequently the expression of his face does not correspond to the subject of his conversation, as for example one of my patients showed a smile on his face while speaking of the death of his beloved son. Such contradictory attitude betrays the fact that contrary to the neurasthenic, who, as I said, appreciates keenly his trouble, the early paretic is incapable of recognizing properly his ills of which he speaks.

The true neurasthenic gets easily tired out both physically and mentally. His mental operations get readily exhausted on effort but not disturbed or modified. The paretic on the contrary presents genuinely diminished intelligence. Besides, the above described want of power of criticism, of judgment, the change of the moral personality, the grave omissions and errors in his daily acts and conduct—all these additional symptoms will enable one to recognize an oncoming paresis in spite of the presence of neurasthenic symptoms.

There is another method which renders great assistance in making a diagnosis of paresis in its initial period. I wish to speak of the cytological examination of the cerebrospinal fluid. The lumbar puncture, inaugurated by Quincque in 1891, was utilized first by F. Widal and Ravaut for diagnosis of paresis. In normal conditions, or even in functional nervous diseases, such as neurasthenia, centrifugation of the cerebrospinal fluid fails to form a sediment, or at most a very few isolated leukocytes can be seen under the microscope. In paresis, to each 100 leukocytes 85 or 90 lymphocytes are found. It has been proved that this lymphocytosis is one of the most precocious signs in paresis. All of my patients presented these findings with this exception, however, that in forty-seven the first puncture gave immediate positive results. The remaining twelve did not show lymphocytosis at first, second and even third punctures which were made at intervals of two, three or four weeks. It can be safely asserted that lymphocytosis of the cerebrospinal fluid is a very valuable diagnostic element in cases presenting some difficulty in the differentiation of early paresis and ordinary neurasthenia.

The Wassermann test is another valuable asset for the subject under discussion. It is pretty well established that in the largest majority of cases of paresis, syphilis is the original cause. This belief finds its strongest corroboration in the discovery of fixation of complement as described by Wassermann. The concensus of opinion concerning this new test is that diseases, in which it is found to be positive, have a syphilitic origin. On the other hand in parasyphilitic diseases, such as tabes and paresis, Wassermann test has been found positive if the patients are not under antisyphilitic treatment. The test can be made either on the blood or on the cerebrospinal fluid. Irrespective of some difference in the findings when practiced on both fluids, it can be safely asserted that when difficulty arises in establishing a differential diagnosis between initial paresis and ordinary neurasthenia, the positive Wassermann test will be found of great utility.

Noguchi has recently introduced a precipitation method which is also pathognomonic of syphilis as an underlying cause. If to 0.1 c.c. of cerebrospinal fluid 5 c.c. of ten per cent. butyric acid are added and after the mixture is boiled for a minute 0.1 c.c. of normal sodium hydroxid solution is added and again boiled, a heavy flocculent precipitate (globulin) will form. According to Noguchi the test is positive in ninety per cent. Ross-Jones simplified the test. He obtained a precipitate when, to 1 c.c. of cerebrospinal fluid are added 2 c.c. of saturated solution of ammonium sulphate, a network ring is obtained within three hours.

We are in possession, therefore, of three valuable diagnostic methods when we are confronted with a difficult problem of determining, as it sometimes happens, whether we are dealing with an incipient paresis or an ordinary neurasthenia. Cytological examination of the cerebrospinal fluid, Wassermann test of the blood and of the cerebrospinal fluid and Noguchi test for globulin, Ross-Jones' modification of the latter, are all methods which have been adopted and proved to be of great assistance.

If the differential diagnosis between paresis and ordinary neurasthenia presents in many cases no special difficulty, the same can not be said of cerebrospinal syphilis. The latter sometimes simulates paresis. In both affections the neurasthenic symptom group exists. Cerebral syphilis produces a profound neurasthenic state, which resembles appreciably the initial stage of paretic dementia. At this stage the difficulty may be quite considerable and for a long time the diagnosis remains hesitating. This is particularly so when in both affections Wassermann and Noguchi tests are positive in view of their common etiology and when in both affections lymphocytosis of the cerebrospinal fluid can be found. The laboratory tests are therefore of no great utility for differentiation of these two affections. We must therefore look for assistance in the general picture and the evolution of the symptoms. In cerebrospinal syphilis at the very onset we find a marked diminution of intellectual functions. Moreover the onset is usually acute. In initial paresis the onset is very slow and insidious and the intellectual defect is less marked at first. In the first disease at the very beginning there is very severe headache, usually localized in the frontal region and aggravated at night. The headache is continuous and may last for weeks. Headache, especially of this nature is not encountered in paresis. The psychic symptoms consist of intellectual inertia, profound apathy, somnolence which is quite pronounced, a special dullness in the facial expression. Such a picture is certainly different from what we saw in initial paresis. Besides, there is never the optimistic carelessness and general exaltation in the motor and sensory spheres which are observed in the expansive form of paresis. An interesting feature worth mentioning is the fact that alongside of the apathy and loss of memory the reasoning power may be totally preserved, a fact which is not observed in paresis.

Cerebrospinal syphilis is usually accompanied by local symptoms. In the first place and very early develop ocular changes, such as optic atrophy, contraction of visual fields, hemianopsia, etc. Palsy of other cranial nerves, symptoms of spinal cord involvement, such as exaggerated knee-jerks, the toe phenomenon, ankle clonus, changes in the sensations in the limbs, such as hyperesthesia or hypoesthesia, symptoms pointing to the involvement of the sphincter of the bladder—these are the local manifestations showing a simultaneous involvement of the cerebrospinal axis. In early paresis these symptoms are all wanting and the somatic symptoms are very few in number.

The course of cerebrospinal syphilis is characterized by great variability and mobility of the symptoms which either become exaggerated or ameliorated. In early paresis the course is very slow and invariably progressive. Finally the antisyphilitic treatment has a remarkably rapid effect on the symptoms of cerebrospinal syphilis. The psychic as well as the local symptoms rapidly improve and even disappear. Such a course of events is not observed in early paresis. To sum up, we may say that the richness of symptoms in syphilis is such that with a minute analysis it is possible in almost every case to reveal some particular feature indicative of the existence of a localized focus in the brain and in the spinal cord. The incomplete, unequal and regressive character of cerebrospinal syphilis is different from the global and progressive character of paresis. Finally the variability and capriciousness of the symptoms are typical of syphilis.

There are two other affections which sometimes present diagnostic difficulties in differentiating from early paresis. They are alcoholism and chronic lead intoxications.

In alcoholism there is always present a history of use of alcohol during a long period. Besides, the association of tremulousness of the hands, various paresthesias in the extremities, cramps in the calf muscles, the characteristic facies—all these symptoms are not observed in the initial stage of paresis. The alcoholic individual usually suffers from hallucinations of a terrifying nature which become accentuated at night. He usually appears brutal, stupid, but not demented. The paretic in the early stages presents a reverse condition. The alcoholic appears sad and preoccupied, the early paretic, indifferent and apathetic. The alcoholic usually becomes delirious. In early paresis delirium is a great rarity. If an alcoholic develops expansive delusions they have to be brought out and can only be ascertained upon a skillful questioning of the patient. The paretic is eager to speak of them and does it unsolicited.

The early paretic usually has no special changes of his speech, but if he develops them early the speech is ataxic, full of repetition of syllables and words. The speech of the alcoholic is merely embarrassed, thick and tremulous.

A very important differential test consists of withdrawal of intoxicants. As the manifestations of alcoholism depends on the toxic element consumed by the patient, they naturally present a progressive amelioration and may even totally disappear if the patient is deprived of alcohol. In paresis, on the contrary, the symptoms remain and follow a gradually progressive course.

Finally in alcoholism no lymphocytosis of the cerebrospinal fluid is observed and Wassermann, also Noguchi, tests are negative. In paresis both are positive and lymphocytosis is present in the majority of cases.

Undoubtedly there are cases of chronic alcoholism which, especially by the psychic manifestations, the attitude and the facies of the patient, may strongly simulate or mask an oncoming paresis. In such cases we sometimes experience great difficulty in making the proper discrimination. A prolonged and close observation under the guidance of the above emphasized rules will enable one eventually to arrive at a definite conclusion.

Lead intoxication (chronic) presents a symptom group designated as encephalopathy. The resemblance between lead encephalopathy and early paresis may sometimes be very striking especially by the psychic manifestations. In both affections is observed a neurasthenic state and mental attitude suggesting an oncoming dementia. But in encephalopathy the dementia seems to dominate the entire situation from the very onset. The array of physical signs, such as the cachectic appearance, difficulty of speech of gross nature, motor disorder of paralytic nature affecting chiefly the extensor groups of muscles, abdominal colic, severe headache, the blue line on the gums, frequent occurrence of interstitial nephritis with albuminuria, arteriosclerosis, are all symptoms which rapidly develop in lead encephalopathy and which are not found in the initial stage of paresis. Finally, the regressive evolution of symptoms, after the appropriate treatment has been instituted and the patient has been removed from the toxic influence, is one of the most characteristic differentiating evidences of the pseudoparesis caused by lead intoxication. We have seen that in essential paresis the disturbances are fundamentally progressive.

MEDICOLEGAL CONSIDERATIONS.

When paresis is in its phase of full development, when the patient develops delusions, when his morbid conduct is so evident as not to be overlooked by a lay mind, the patient's irresponsibility is then very obvious and any juror can be readily convinced of the mental incapability of a paretic. Such is not the case with early paretics. By reason of gradually developing moral and affective perversions which announce the onset of the disease, the initial period of paresis is the real medicolegal period. It is then that frequently misdemeanors are misinterpreted and thus the individuals are sent to prison. It is a well-known observation that early paretics not infrequently marry. The new life the patient leads in association with sexual excess aggravates the condition. It is then that revelation made by the physician as to the preëxistence of the disorder is viewed distrustfully by the patient's family. The latter especially we have great difficulty in convincing. The reason of it lies probably in the unconscious and progressive adaptation of the relatives to the equally unconscious and insidiously progressive deterioration of the mental faculties of the patient. As long as the patient automatically carries on his former habits and other acts concerning his usual occupation, he continues to live among his people. The lapses of memory, the digression in his conduct apart from his regular work, the changes of his character or sentiments, are all attributed to fatigue or absent-mindedness. Notwithstanding the fact that the previously economical man commences to dissipate, that the sober man abandons himself to excesses and frequents undesirable places and individuals, that the refined and educated man commits grave infractions of rules of politeness and surprises his friends with marks of indecent manners, the early paretics nevertheless are not infrequently permitted to have liberty of action, to continue in their responsible positions, such as banking, teaching, engineering, conducting a train or a ship, etc., until a misconduct occurs, sometimes with the result of loss of lives. The psychological automatism, by virtue of which ordinary acts of life may be executed correctly for a long time, is dangerously misleading in the early period of paresis. It is at this period that illegal acts and crimes are most frequently committed. Its recognition and proper interpretation is a matter of grave importance from a medicolegal standpoint.

Twelve of my fifty-nine patients have been arrested on several occasions for petty crimes. Repetition of the misdemeanors was very striking; the patients apparently had some difficulty of appreciating the enormity of their illegal acts. Once one of them walked out on the street almost nude. Another ordered an elaborate meal in a fashionable restaurant, refused to pay for it and struck the waiter when the latter presented the bill. Some of these patients committed theft of objects of the most insignificant nature and the manner with which they carried away these objects was most astonishing. No precaution as to not being caught was taken by them; for example, one of them walked into a dry goods store, picked up a bundle in the presence of salesmen and walked out. In spite of this evident abnormality of the act it was difficult to convince his wife and mother that the man was developing dementia paralytica. Fraud, forgery, abuse of confidence, assault, exhibitionism, are all apt to be committed in an individual commencing his paresis.

It is evident that the civil capacity and the legal responsibility should be considered void as soon as the earliest signs of paresis begin to make their appearance. Alterations of affective faculties, no matter how slight they may be, deserve to be viewed more seriously than their superficial appearance indicates.

DISCUSSION.

Dr. Robert N. Willson, Philadelphia: I venture to refer to a case that had some importance in this state about four years ago. It was that of a prominent politician who had risen suddenly from a very humble origin to an influential position, both in the matter of wealth and politics. The man was suddenly attacked with a mental involvement which presented exactly the difficulty of diagnosis between the three conditions referred to by Dr. Gordon; viz., paresis, some paranoid form of insanity, and cerebrospinal syphilis. While in an institution under treatment for his mental involvement he was elected to another very prominent position in the country, and his vote was cast regularly for him as legislator during his confinement in the sanitarium. I had the privilege of serving on a commission which was sent to another state to examine him. I was not there in the capacity of alienist, but as a medical man, and was considerably impressed with the difficulty encountered by specialists in this field in determining the difference between a case of early paresis, which this turned out to be, and the other two conditions. This patient had no mania, his memory was good, and some of the things he told about the method of diverting the money from the coffers of Pennsylvania to private pockets were, to say the least, remarkably instructive. He did have a number of other signs of early paresis, including a high lymphocyte count following the study of the spinal fluid. Until the time of the full development of the paretic picture, nearly a year and a half later, he was more or less of an invalid. During most of that time, however, it was impossible to make a definite diagnosis.

Dr. Gordon, closing: I can cite a number of instances among politicians and others in which the condition was overlooked, and they were even allowed to make laws and govern us,—and those people were suffering from paresis.

THE TREATMENT OF INGUINAL HERNIA IN CHILDREN.

BY E. W. MEREDITH, M.D.,
Pittsburgh.

(Read in the Section on Surgery of the Medical Society of the State of Pennsylvania, Scranton Session, September 24, 1912.)

In common with many other developmental defects, such as harelip, cleft palate, spina bifida, undescended testicle, hypospadias, epispadias and exstrophy of the bladder, the radical cure of inguinal hernia in children has been, as a rule, postponed until late childhood. Postponement of surgical interference has been due in the first place to the erroneous belief that very young children are poor surgical risks, and in the second place to the widespread use of various mechanical appliances, of which the traditional truss, whose usefulness in the preantiseptic days was beyond question, is the most noted example. During the past few years, however, the correction of these deformities at an early age has steadily gained in favor. This is particularly true of inguinal hernia in children.

ANATOMY AND EMBRYOLOGY.

Embryological, anatomical and clinical facts all tend to emphasize the desirability and simplicity of correcting, at an early age, a developmental defect, the presence of which makes a hernia possible; namely, a more or less open funicular process.

The peritoneal process, which accompanies the testicle in its descent to the scrotum in the latter months of fetal life, is utilized in part to form the two layers of the tunica vaginalis testis, the remaining portion normally becoming obliterated. In a large percentage of cases, however, estimated by some as high as fifty per cent. complete obliteration does not take place. Of these about ninety-five per cent. are partially obliterated—five per cent. remaining completely open. It is not to be assumed that the gut or omentum finds its way into every open funicular process; in fact, MacCready states that hernia enters the passage only in the minority of cases in which it remains open." Murray, in two hundred postmortem examinations found sixty-eight peritoneal diverticulæ; forty-four femoral; twenty-two inguinal and two umbilical. During life none of these patients gave any history or evidence of a hernia.

The relatively small caliber of the processus vaginalis and the protection of its entrance by the abdominal muscles makes a certain degree of intraäbdominal pressure necessary as a contributing factor; yet it seems highly improbable that in the absence of a preformed sac the development of a hernia could take place.

Weakness of the abdominal muscles in the neighborhood of the internal ring is incorrectly considered an important factor in the development of a hernia. The arching fibers of the internal oblique and transversalis when contracting tend to straighten out parallel with the rigid fibers of Poupart's ligament, thus acting somewhat in the manner of a sphincter. This half tendinous, half muscular sphincter is quite sufficient in the absence of an open funicular process. It is not able, however, in all cases to act as a true sphincter, as for example the sphincter ani, and keep tightly closed a serous-lined tube extending from the abdominal peritoneum toward the scrotum. Nor have we any evidence that failure to do so is in any way due to a congenital weakness of the muscles concerned. In fact, the average child presenting a hernia is usually quite robust, and the musculature as exposed during operation is well developed and normally attached.

An acquired weakness of the abdominal muscles in the inguinal region is quite another matter; and a large hernia of long duration or the pressure of a truss and the interference with proper physical exercise due to both are quite sufficient to bring it about.

ASSOCIATED CONDITIONS; HYDROCELE; UNDESCENDED TESTICLE AND HERNIA OF THE OVARY.

Undescended testicle, congenital hydrocele and hernia of the ovary are when present accompanied by, or due to, a more or less open funicular process in the great majority of cases. Not infrequently they are confused with hernia, and a truss prescribed. They are of interest here largely from the fact that they modify the steps of the operation. The time and indication for their operative relief are, I believe, quite the same as in simple hernia.

The undescended testicle is not likely to complete its journey after the first year while the accompanying open funicular process and the possibility of torsion of the spermatic cord make operative relief the more desirable.

Torsion of the spermatic cord is rare, some forty cases having been reported, in forty-seven of which the testicle was undescended. I have met with one case in a boy five years of age. The local signs were very suggestive of strangulated hernia, but the absence of the testicle on the right side and the mild constitutional disturbance made the diagnosis of torsion of the cord seem probable. Removal of the testicle was necessary.

An analogous case in a female infant three months of age required the removal of the left ovary and part of the fallopian tube. Torsion of the uterine adnexia in hernia of children is also rare, forty cases having been reported. Hernia of the ovary occurs most frequently during the first year of life, the extrapelvic position of the ovary and an open funicular process being the necessary factors. With the ovary or testicle occupying the inguinal canal it is frequently necessary to modify the usual operation for simple hernia to the extent of dividing the aponeurosis of the external oblique in order properly to remove or replace these organs.

As congenital hydroceles frequently communicate with the abdominal cavity they should be attacked at the external inguinal ring, the funicular process ligated and divided as in a hernia operation, and the scrotal portion of the sac everted. Simple pressure with the hand failing to do so, a decrease in the size of the hydrocele after several hours in recumbent posture demonstrates clinically its communication with the abdominal cavity. With intraäbdominal pressure, difficult to control or regulate, and no evidence of faulty musculature it only remains to decide how and when to attack the most important etiological factor; namely, the open funicular process.

Spontaneous closure may take place during the first few months of life. Stiles has had a few cases in which the hernias disappeared while waiting a suitable age for operation.

TRUSSES.

As regards the time-honored truss it is difficult to form an estimate of the frequency of cure; that is obliteration of the patent funicular process.

"Hernia in childhood cured by a truss" is not an infrequent history in strangulated hernia developing during young adult life if, as the result of some severe strain, the bowel be suddenly forced into the empty sac.

Of 15,000 cases of hernia reported by Coley, one third were present during childhood.

LeDran, a French surgeon, examined a number of the bodies of hernial subjects who had been cured by truss treatment and in not a single case had obliteration of the sac taken place, nor would cohesion of two endothelial lined surfaces, in the absence of inflammation, be consistent with the established laws of pathology.

Although the truss may for a time, even after its use is discontinued, obscure the hernia, the evidence all tends to show that the sac, though much reduced in caliber, is still patulous and that it is only a matter of time until some unexpected or unusual intraäbdominal pressure forces the gut into it.

OPERATIVE TREATMENT.

As operation offers the only certain method of obliterating the open funicular process there seems to be no good reason why this should not be done at an early age. That it may be safely performed at any time from six months of age upwards has been fully demonstrated by Stiles, Russel, MacLeod, Herring, Kellock and others. Operation is advised in every patient over six months of age. Before six months, the use of a truss is not recommended as it is probably worse than useless, and this in spite of the fact that strangulation, while not common in children, most frequently occurs in very young infants.

In case this emergency should arise, the elasticity of the tissues greatly retards actual strangulation, thus affording sufficient time for proper diagnosis and treatment while reduction can usually be accomplished without operation by means of position, sedatives and local application of heat. Furthermore, strangulation is most likely to occur in the relatively large hernias, which not infrequently contain the cecum, a type of hernia which can not be controlled by a truss. The cecum is more mobile and relatively smaller in children and, together with the appendix, is found in the hernial sac more commonly than in adults. I have removed the appendix in the two instances in which it was found in the hernial sac.

Preparation for operation consists, in the ordinary case, of a small dose of castor oil the night before and omitting the meal or feeding which immediately precedes the operation. Starvation and purgation, previous to operation are especially to be avoided as both are liable to cause an increase in the amount of acetone in the urine, this increase being often coincident with, and probably related to, a symptom complex characterized by a rapid pulse without fever, vomiting and apathy. In the large hernias a few days rest in bed with feet and legs elevated on a pillow will greatly facilitate the operation. For anesthesia, ether is invariably used and should be given by one who is experienced in anesthetizing children.

OPERATION.

The incision is made parallel to the lower third of Poupart's ligament directly over the external ring. The thickness of the pubic fat which is relatively greater in children than adults will determine its length. The incision should not extend into the scrotum which, on account of its broad base and well contracted dartos, seems to lie directly over the pubic bone.

The pillars of the external ring having been exposed the coverings of the cord are picked up on either side and divided longitudinally until sac is exposed. By catching up the coverings of the cord laterally at the lower end of the wound with forceps, one at either side, and flattening out the tissues the dissection can be readily accomplished and the cord but little disturbed from its bed, the vas and pampiniform plexus lying to the outer side and posteriorly. The cremasteric fascia is easily recognized and its muscular fibers are usually quite well developed.

The sac once exposed is easily separated from the cord. In case the sac extends well into the scrotum or is continuous with the tunica vaginalis testis it should be divided below the external ring and the scrotal portion left undisturbed and unsutured. Upwards the separation of the sac is continued until the appearance, as in adults, of a pad of preperitoneal fat, an outlying spur of the prevesical fat, indicates the proximity of the parietal peritoneum.

The inguinal canal in children is very short, the internal ring lying almost directly behind the external ring thus permitting with slight traction high ligation of the sac.

The bladder, though lying higher in children than adults, does not present itself in the wound and injury of it is extremely unlikely. After ligating neck of sac with catgut and controlling hemorrhage from subcutaneous veins, the skin is closed with horsehair.

Various ways of dressing the wound have been tried. The so-called, "anchored dressing," has been found most satisfactory. Three or four silkworm-gut sutures are introduced through skin and fat, tied over a roll of gauze and dusted with powdered boracic acid. The suture at either end is placed beyond the limits of incision.

After recovery from the anesthetic no special effort is made to restrain the patient, though sitting up in bed is not permitted for five or six days. Nurslings are allowed to suckle at the breast as usual. Regular diet is permitted at the end of twenty four hours. If acetone is present in the urine, bicarbonate of soda is administered per rectum. The after treatment in the usual case is less trouble than that of a circumcision. Children are good surgical risks; but they can hardly be expected to tolerate well the adult operative dose of time, hemorrhage and anesthetic. Barring some unusual accident there should be no mortality.

Stiles, reports 1000 cases with six deaths, only two of which occurred in the last 700. Hans Spitzy reports 1100 cases with four deaths, two of which were due to house epidemics. The ultimate results were excellent. I have operated upon fifty cases in children, twenty being less than two years of age with very satisfactory results. There has been no mortality and in a recent personal examination of those operated upon more than a year ago no recurrences were found.

CONCLUSIONS.

1. A more or less open funicular process is the essential factor in the etiology of hernia in the young.

2. Closure of the funicular process by ligature imitates the normal obliteration at birth and should be done early in life, and with the least possible trauma to surrounding structures.

3. The truss does not obliterate the funicular process, and actual cure seldom if ever follows. Its use can not be favorably recommended when the operative results both immediate and remote are so satisfactory.

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4. MacLeod: *British Med. Jour.*, Jan. 20, 1912.
5. Herring: *British Med. Jour.*, April 13, 1912.
6. Kellock: *British Med. Jour.*, Jan. 13, 1912.
7. Hans Spitzy: Pfaundler and Schlossmann, Diseases of Children, Vol. V.
8. Odiorne and Simmons: *Annals of Surgery*, Vol. 40, p. 963.
9. Coley: *Archives of Pediatrics*, Vol. xv., 1898.
10. Murray: *British Med. Jour.*, Vol. ii., 1907.

DISCUSSION.

Dr. Edward B. Hodge, Jr., Philadelphia: Dr. Meredith's paper is most interesting and thorough. He is to be commended particularly for his simplicity of operation and after treatment. While I do not wish to be considered reactionary I think Dr. Meredith has made out the case of the truss a little too gloomy. The majority of these patients need operation. They can be operated upon successfully and with a low mortality, though there is always some mortality in a large series. Roughly speaking, the so-called private cases, as opposed to hospital cases, can be treated with a truss with reasonable hope of cure. I should hesitate to operate at once on the average infant in private practice as a routine, where the parent can take good care of the child. The average hospital case it is my custom to treat by early operation. In large hernias, in either private or hospital practice, we should operate early. In the better class of patients, a trial with a truss under the personal care of the surgeon is often successful. I have not always found dissection of the sac easy. It is in most cases, but in some very difficult. Often it is very delicate, tears easily and requires a high degree of skill and care to get it away successfully. Dr. Meredith said truly that children are good operative risks but can not stand the adult dose of anesthetic. If the operation is prolonged it is not so well borne. I am glad Dr. Meredith does not advise putting the child in plaster as some do. If anything in the way of restraint is needed, the Bradford frame or a moulded pasteboard splint is ample. Usually no restraint is needed. I do not wish to be misunderstood. I would operate in the large majority of hernias in children, but I think we should not operate on them too soon. I believe a fair proportion of children of the better class of patients should have the truss treatment first and many of them can be cured if the surgeon gives his personal attention to the fit of the truss and follows up his patient.

Dr. John H. Gibbon, Philadelphia: I believe with Dr. Hodge that the truss can cure, and does cure, a certain percentage of hernia in infancy. The reason that this percentage is not larger is because the truss is not properly employed, either by the child's parents or by the physician. It must be borne in mind that to accomplish a cure with the truss the hernia should never be allowed to come down, and if it does come down then the truss treatment must be considered to have started from this time. Most parents have the idea that to keep the hernia up most of the time is all that is necessary and that when it has not been down for six months there is no further occasion for the truss. The physician should examine the child from time to time and see that the truss is changed when necessary. In regard to undescended testes as a complication of hernia, I would like to say that I believe the removal of these organs to be unjustifiable to-day unless a conscientious attempt to place the organ in the scrotum by some such operation as Bevan's has failed. When the technic of the Bevan operation is carefully carried out it will be found that there are very few undescended testes that can not be carried down into the scrotum. When the ovary is found in the hernial sac it should be restored to the abdomen and not removed. It must be remembered that in the female the round ligament is in closer association with the hernial sac than the cord is in the male, and its separation more difficult. In a large number of cases it is ligated and cut off with the sac; if this is done then the stump of the sac, with the divided ligament, should be attached firmly to the abdominal wall just above the internal ring.

In connection with my discussion of this paper on hernia I should like to be allowed to report a case which, in justice to a well-known Pennsylvania surgeon, should be put on record. A foreigner, who had been operated upon for double hernia by this surgeon a year previously, entered my service at the Jefferson Hospital complaining of pain and a recurrence of the hernia on the left side. I could find no evidence of any recurrence and kept the patient in the hospital several days in order to make sure of his condition. Apparently he had a perfect cure on each side. On leaving the hospital he was admitted to another hospital in Philadelphia where he was operated upon. I heard nothing from the case until I received a letter from the surgeon, who first operated upon him, enclosing a most sensational and abusive newspaper article in which it was said that in the original operation a sponge had been left in the wound. I immediately got into communication with the surgeon who operated the second time and found out that the material which had been removed was not a sponge but a small mass of material, the fiber of which seemed to be cotton and which was brown in color. As I had operated upon two cases of hernia which had been previously injected by a well-known quack in Wilkes-Barre, and in which I had found this same material, I felt convinced that this patient must have been subjected to the same treatment. Investigation by the original operator showed that six months after his operation the patient had gone to Wilkes-Barre and been submitted to this injection treatment and it was the material injected which was removed at the second operation. In the absence of a history of injection the finding of this material, which resembles tarred rope, might easily prove confusing.

Dr. Charles E. Thomson, Scranton: On the subject of injections I should like to report briefly a case that was injected in our city. Immediately afterward, the patient suffered great pain and the foot and leg became blanched and with a good deal of difficulty the quack got him transported to his home town, a distance of five or six miles. I was asked to see the patient in a few days in consultation with his family physician and found gangrene in that leg as high up as the knee. We afterward amputated his leg and the man is walking about on an artificial limb as the result of his injection. It is presumed that in this particular case the injection was put into the artery instead of into the sac.

DR. MEREDITH, closing: The question seems to resolve itself into whether a truss or operation is the best treatment for hernia. In regard to the truss as an actual cure, I believe a truss never brings about obliteration of the open funicular process. While patients may apparently be free from hernia as far as the escape of gut or omentum is concerned it is only a question of time until an actual hernia develops through some unexpected or unusual strain. I believe a person born with an obliterated funicular process will never develop oblique hernia. They may develop a direct hernia. It will not be difficult to recall cases in which you have failed to cure hernia with a truss. While there is some mortality from a large series of cases operated upon, it is very difficult to say just what the mortality of truss treatment is, although I presume there is some. It is not easy to dissect out the sac, but by not disturbing the cord very much from its bed and cutting down on the sac as you would on peritoneum in an abdominal operation you can do it more easily, the vas and pampiniform plexus lying more or less undisturbed to the outer side of the dissection. In regard to buried sutures there are no sutures except around the neck of the sac. No structures are divided except the coverings of the cord and the overlying fat and skin. It is neither a Bassini nor a Ferguson operation but simply high ligation of the sac.

THE OPERATIVE TECHNIC OF STRANGULATED HERNIA.

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(Read in the Section on Surgery of the Medical Society of the State of Pennsylvania. Scranton Session, September 24, 1912.)

The three essential features of a hernia when strangulated by a constriction at its neck are irreducibility, obstruction of the fecal current, and interference with the blood supply. It is upon this basis that the subject will be considered, for some confusion exists among the writers as to just what constitutes a strangulated hernia. Incarcerated, inflamed or irreducible hernias are not infrequently regarded as synonymous with strangulated hernia.

All will agree that the question of anesthesia is a matter of the greatest importance in dealing with this condition. Shall a local or general anesthetic be used? It is my belief that a general anesthetic should rarely be given. These patients are exhausted from lack of nourishment and vomiting. Some of the foul and toxic vomitus has or will be aspirated into the lungs during regurgitation. Many of them show evidence of hypostatic congestion at the bases of the lungs when first seen, the result of confinement in bed and the shallow respiration enforced by abdominal pain. There can be no doubt but that, under these circumstances, a general anesthetic frequently precipitates a pneumonia. Attention has been repeatedly called to the danger of drowning in the vomitus during the anesthetic. Moreover, the organism is already suffering from severe toxemia from the absorption of the putrefying contents of the occluded intestine. The most potent agents in elimination, the kidneys, are already taxed to the utmost. Ether, to say nothing of chloroform, throws an additional burden upon them and further impairs a function that should be carefully conserved. It is granted that at times a general anesthetic may be indispensable, but a full realization of its dangers should limit its use to these few cases.

If used, the stomach should invariably be washed out prior to administration as well as following it. A small tube, inserted through the nose and left in place, will serve to empty the rapidly filling stomach from time to time during the operation. The use of ether by the intratracheal insufflation method of Meltzer, Auer and Elsberg is of value here in so far as it avoids the danger of aspiration during operation,—but only then.

A large proportion of the cases can and should be operated upon with the aid of local anesthesia. Morphin sulphate, 1/6 to 1/4 grain, with atropin sulphate, 1/100 grain, are to be given twenty minutes before operation is begun. A sterile screen between the face of the patient and the operative field is of considerable aid. For the local anesthetic, novocain 1 to 1000 with adrenalin, boiled, and used with the greatest freedom as to quantity, is preferred. The bladder should be evacuated just before operation.

The incisions in common use for the radical cure of the various forms of hernia are most suitable for herniotomy, as a rule. There is some advantage in the vertical incision for strangulated femoral hernia, especially in women, since it may be readily prolonged into the abdominal cavity if advisable. Whatever incision be used, it should be a roomy one. An adequate incision facilitates the subsequent steps of the operation and does away with the necessity for pulling and dragging with retractors. The latter are much more potent in producing shock than a large incision.

Clamping vessels before they are cut insures a dry field and prevents staining of the tissues with blood. Thus the recognition of the various structures, as the incision is deepened, becomes easy. There should be no difficulty in recognizing the sac, but it has been made a sort of a surgical bugaboo by many writers. If any doubt exists, or when the sac is exposed, a small fold of tissue is lifted up between two forceps and an incision is cautiously made with the point of the knife, not at the apex of the fold but upon the side of raised tissue. This guards against wounding the intestine if a portion of it should by any chance be included in the bite of the forceps. The sac is to be opened early, as soon as any part of it is exposed. The surest indication that it has been opened is the escape of a small quantity of clear or blood-stained serum and the recognition of its endothelial lining. The infectious nature of the fluid contents is well known; hence, this should be carefully sponged away with as little contamination of the wound and fingers as possible.

Grasping the margins of the sac with blunt hemostats, the finger is introduced and upon it as a guide the external aspects of the sac are readily cleared with gauze up to the neck on all sides.

The construction is now divided, taking the precaution to hold the intestine in position lest damaged bowel slip back into the abdomen upon being released. Division of the constriction should be made with the scalpel, cutting cautiously from without inward in full view in a dry field. Blind cutting with scissors or the blunt herniotome is dangerous and has no place in modern surgery. It is hard to understand why this practice has survived so long; blood vessels have been caught and ligated for centuries.

The hernial contents are now inspected. Omentum, if small in amount and not damaged, is returned to the abdomen. Otherwise it is securely ligated and removed, leaving a good stump beyond the ligature. Rolling the cut surface on itself and fixing with suture prevents the raw surface from forming adhesions and causing future trouble. The determination of the viability of the contained intestine, as a whole or in part, calls for the best surgical judgment. Can it be safely returned? Unless hopelessly gangrenous, the condition of the bowel improves upon release of the constriction. Further improvement is hastened by the application of compresses, wet with hot salt solution, for five or ten minutes. A slight needle prick of the infected serosa bleeds in bowel still viable. Kocher regards the condition of the mesenteric vessels as the best test of viability, but at times this may be as difficult to interpret as the condition of the bowel itself. Plummer[1] has called attention to the favorable influence upon the circulation when the affected loop is reduced into the abdomen for a few minutes and again withdrawn. The site of the constriction ring is apt to be most seriously damaged. Drawing down the loops, which should be freely movable (except as limited by the length of the mesentery), a careful inspection is made of this portion. If sufficient improvement occurs to warrant the belief that full recovery will take place, the bowel is returned, sweeping the finger about the inner aspect of the abdominal ring to make sure that the loop lies free with no adhesions.

If grave doubt exists as to the viability of the loop as a whole, it may be left *in situ* for twelve to twenty-four hours surrounded with moist sterile gauze, to be reduced later if desirable; or it may be reduced and packed about with gauze or large cigarette drains at the bottom of the wound, fixing the adjacent healthy intestine to the parietal peritoneum with a few catgut sutures. Under similar circumstances, Helferich[2] leaves the suspicious loop outside and, drawing down healthy bowel, does an enteroanastomosis between the afferent and efferent loop, a procedure that has much to commend it. Provision is at once made for the free passage of the contents of the bowel, while if gangrene of the suspected portion should occur, the resulting fecal fistula will close spontaneously. If it is found impossible to draw down sufficient bowel for the purpose through the hernial opening, the incision may be lengthened into the abdomen, or another incision is made, for the purpose of anastomosis.

Small isolated circumscribed patches of gangrene are best treated by infolding or excision. In suturing, care must be taken to avoid constricting or kinking the intestine to such a degree as to interfere with its function.

Complete circumferential gangrene of limited extent (not over three or four inches) may be dealt with by total invagination downward as proposed and practiced by Guinard.[3] The mesentery is detached along the gangrenous segment and an intussusception induced downward until healthy intestinal wall is reached. A continuous circular seromuscular suture fixes the invagination in place and the gap in the mesentery is closed. The method is one to be used with discretion for it has been repeatedly shown that the mucous membrane of the bowel above the plainly gangrenous loop is often ulcerating, sloughing or even gangrenous.

When the bowel is undoubtedly gangrenous, and to an extent rendering the methods just referred to unsuitable, but two courses are open; either the formation of an artificial anus or a primary resection with immediate anastomosis. Literature is replete with statistics and arguments for and against both procedures as well as ways and means to accomplish them. Kocher from the first has been an ardent champion of primary resection, ably seconded by Mikulicz, Barker and many others. Statistics collected by Coley[4] from six large clinics show a difference in favor of primary resection of 23.1 per cent. in 3268 cases, while Bryant[5] estimated it at about 25 per cent. Yet, as the former points out, it is hazardous to draw conclusions from statistics alone, inasmuch as it is upon the general condition of the patient that the decision as to either procedure rests; the speedy operation, artificial anus, for the desperate cases; primary resection for the more favorable ones. This will account, in some measure at least, for the more favorable showing for resection. Both operations have their place. The choice will depend upon a number of factors, such as the surroundings, the technical skill and experience of the operator and above all, upon the vital resistance of the subject.

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[1] Plummer: *Surg., Gyne. and Obstet.*, June, 1911.
[2] Helferich: *Arch. f. klin. Chir.*, 1891, Bd. XLI.

[3] Guinard: Comptes rendus Congres. de Chirurg., 1895; also Summers, Trans. Surg. Sect., Am. Med. Assn., 1908.
[4] Coley: Keen's Surgery, Vol. IV., p. 52.
[5] Bryant: Surgery, 1905.

The disadvantages of artificial anus are manifold. A disgusting condition, alike offensive to patient and attendants, it is but one step on a perilous road to recovery. If high in the canal, malnutrition ensues, perhaps death. Drainage from the distended and paralyzed bowel above is frequently insufficient to speedily rid the intestine of its toxic contents, with a fatal result from toxemia or peritonitis by bacterial migration. Barker[6] has forcibly called attention to the pathology of this portion of the gut, to the virulence of its contents and to the dangers attendant upon failure to deal with it adequately. Simple incision of the gangrenous bowel, leaving the constriction intact to guard the peritoneum from infection, has been commonly advised. Such a course is based upon false ideas of the pathology of the peritonitis that follows. The peritoneal cavity is amply protected from invasion at the neck of the sac by inflammatory barriers. It is from the bowel above the constriction, with its toxic contents, its walls so changed by inflammation as to offer little or no resistance to the passage of bacteria, the mucous membrane even ulcerating or gangrenous, that the peritonitis arises. The conditions are similar to an inflamed appendix constricted at its neck.

Granted that, in the judgment of the operator, an artificial anus should be established, the strangulating ring is to be divided and the gangrenous bowel cut away. The upper limb should be emptied as thoroughly as possible by irrigation with warm normal salt solution through a soft rubber catheter. Fixation in the upper segment of a huge rubber drainage tube (with a smaller one in the lower segment) insures the patency of the opening, favors free drainage and carries the intensely toxic material away from the fresh absorbing surface of the wound. Provision may be made, if time does not press, for the future closure of the opening by drawing down the two limbs and suturing them side by side with two rows of sutures, one to one and a half inches apart, for a distance of five or six inches, as suggested by Bodine[7] for colostomy. After a suitable period the septum is obliterated by a Dupuytren's clamp and the necessity for a formal secondary operation probably avoided. Rather free mobilization of the limbs is essential to the method. If this is possible or desirable, primary resection is readily done with but little more time. Fowler[8] has suggested the McGraw elastic ligature for the same purpose.

The advantages of primary resection as compared with artificial anus are obvious and have been well recognized since Ramdohr[9] first successfully resected the gut for hernia in 1727. The results, previously referred to, are not brilliant and probably never will be, owing to the deplorable state in which the subjects reach the surgeon; but they are improving. Berkofsky[10] reports a series of sixty-one cases of gangrenous hernia, four being excluded as moribund. Primary resection was done in forty-nine cases with a mortality of 32.6 per cent.; with other operations (incision, tamponade, transposition) the mortality was 62.5 per cent., or about 30 per cent. higher than for resection.

For successful results in resection it is essential that the excision shall include not only the actually gangrenous bowel, but also several feet of the intestine lying immediately above it. This has been shown to be undergoing serious pathological changes. The virulent contents of the intestine above the resection must be evacuated. The anastomosis must be made in healthy tissue or approximately so. If the intestine can be drawn down through the hernial opening sufficiently to comply with these requirements without undue traction, well and good. If not, either the incision must be prolonged into the abdomen or a separate incision is made. It was Mikulicz'[11] practice in every case of suspected gangrene, to open the abdominal ring from within.

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[6] Barker: *Lancet*, May 30, 1903; June 6, 1903.

[7] Bodine: N. Y. Polyclinic, 1897.

[8] Fowler: Surgery, Vol. II., p. 156.

[9] Ransohoff: *Annals of Surg.*, Vol. xvi., p. 342

[10] *Deutsch. Zeit. f. Chir.*, March, 1911

This is not the time or place to enter upon the minute details of enteroanastomosis, the principles of which have been so well worked out. As has been well said, "Where one sews is more important than how one sews." Speed and simplicity are desirable and any established method which makes for them may be used. To this end many operators prefer the Murphy button. Suture anastomosis can be done almost as quickly. After all, it is wise for each operator to adopt that method with which he is most familiar. Barker's[12] technic possesses valuable features especially as concerns the evacuation of the intestinal contents and the folding of the loop of mesentery to be excised upon itself for the purpose of speedily dealing with it. Opinion differs as to whether the mesentery should be trimmed off parallel and close to the bowel or a V-shaped portion of it excised. McCosh[13] and others have advised the former procedure. This practice leaves nature to care for the septic thrombi in the mesenteric vessels. On the other hand, excision of a V consumes more time and is only approximately thorough or risks the vitality of the intestine at the junction.

The large old umbilical hernias in fat patients, when strangulated, present one of the most difficult problems in surgery at operation. The contents, by reason of their long extramural location and their size, have lost their habitat (Ochsner) within the abdomen. To force back a great mass of intestine and omentum but invites disaster from paralytic ileus and pneumonia. Reduction is frequently impossible. Here the only course to pursue, in the absence of undoubted gangrene, is to relieve the strangulation and divide such adhesions as may be required, leaving the contents unreduced; with gangrenous intestine and omentum, artificial anus or resection, with or without reduction as may be possible. The mortality is the highest of strangulated hernia, chiefly from pneumonia.

The technic for radical cure is to be carried out in all cases of herniotomy if the condition of the patient justifies it. It is unwise to risk too much in borderline cases; rather do a secondary operation for this purpose at a subsequent time.

In the great majority of cases, the wound may be closed without drainage, with resulting primary union in spite of the septic character of the fluid in the sac.

DISCUSSION.

Dr. John B. Roberts, Philadelphia: One of the points which particularly attracted my attention was in the words of Dr. Singley in arguing that most cases of strangulated hernia should be operated upon under local rather than general anesthesia. I think he is a little more radical than is necessary in that regard. Perhaps he has had etherizers or anesthetizers who did not know how to give anesthetics. The operation for ordinary strangulated hernia, if I can pick out the anesthetist, is one of the most satisfactory of surgery. I have nearly always had general anesthesia administered. I have operated a few times under local anesthesia; it can be done better by those who practice it regularly than those who practice it occasionally. The administration of an anesthetic by a man or woman, with the preliminary administration of morphin or atropin hypodermically, which seems to be one of the safeguards in anesthesia, is very satisfactory.

I was particularly glad to hear him go into the details of what one may do with the very bad cases that come under observation in the late stage, where there is so much suspicion of gangrene, and where we are not quite sure whether we are going to have gangrene or not. He has given a great many of the procedures which can be adopted. I think at times the tendency is to make the operation extremely intricate. In gangrenous strangulated hernia I would be inclined to split the gut open and leave out both limbs of intestine. Unless it is too late for the relief of the strangulation we may then look for success quite generally. I have left out a loop of gut occasionally, watched it for twenty-four hours, and if I found no gangrene occurring I have slipped it back again. Where there is a narrow ring of threatened gangrene where Gimbernat's ligament has been tight against the gut, one may turn in the dark ring with sutures and take chances; nearly always it will come out all right. Occasionally one gets rupture on the third or fourth day at some unsuspected spot of gangrene, and then one wishes he had done something more radical.

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[11] *Berlin. klin. Woch.*, Nov. 10, 1892.
[12] Barker: *Lancet*, June 6, 1903.
[13] McCosh: *N. Y. Med. Jour.*, Mar., 1889

Dr. John H. Gibbon, Philadelphia: The discussion is always more interesting when it brings out the differences of opinion but what I say will be of no interest because I agree with everything Dr. Singley said in his paper. It gave me great pleasure to listen to him. In regard to local anesthesia, I think that there is a certain type of advanced strangulated hernia where the general anesthetic determines the issue and it is in this type of case that he particularly refers to the advantages of local anesthesia. I agree with Dr. Roberts that there are a great many cases of strangulated hernia that can be anesthetized with impunity and operated upon, but every now and then there comes a case of strangulated hernia, with fecal vomiting and patient in a serious condition. If you give such patients a general anesthetic for any length of time a large proportion of them will die. These patients can often be saved provided the operator does not undertake to do too much, but removes the strangulation, relieves the obstruction, and provides drainage under local anesthesia. I believe in this type of case the infiltration anesthesia is a great help to us, and the use of it will result in the saving of many lives.

Dr. Singley, closing: I am pleased to hear Dr. Roberts' and Dr. Gibbon's opinions. One gets into the habit of doing things in a certain way and, securing good results, continues. I have rarely operated upon a strangulated hernia excepting under local anesthesia. It offers no difficulty at all and I always feel a little more comfortable about the outcome. I am sure Dr. Roberts gets excellent results with ether as well. Many complicated operations have been suggested for the cure of gangrenous hernia, but, as Dr. Gibbon states, few of them deserve serious consideration in this type of surgery.

THE DEPARTMENT OF HEALTH'S ACTIVITY IN HANDLING TUBERCULOSIS IN PENNSYLVANIA.

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(Read before the Blair County Medical Society, November 26, 1912.)

Preliminary to discussing somewhat in detail the activities of the Department of Health of Pennsylvania in handling tuberculosis, let us discuss for a few moments some modern views as to the disease itself, both as to prevalence and methods of transmission and thus look at the department's activities from a broad standpoint. Tuberculosis as a disease was familiar to all ancient people, records of its existence having been found on cuneiform tablets in the remains of Babylon. The disease was known to the Egyptians and old Biblical references 1500 B. C. are believed by students to refer to tuberculosis. Tuberculosis in animals even seems to have been recognized 500 B. C. and references to its ravages in cattle may be found in the Talmud. A classical description of the disease was given by Hippocrates, the contagiousness of it was taught by Isocrates and Aristotle, the value of sea air as a curative agent by Aretæus, the healing powers of the air in the vicinity of the pine forests were lauded by Pliny and the value of the high lands of Phyrgia was preached by Galen.

From these ancient teachings, the modern methods practiced by the most advanced nations of Europe, Asia and Africa, useful lessons may be drawn. It is extremely interesting to find such a great part of modern teaching has had its counterpart more than two thousand years ago.

In some particulars we have gone a great way and yet we have not gone very far. Modern notions concerning the curability and preventability of tuberculosis, however, have been based more upon a knowledge of bacteriology not possessed by the ancients and upon more detailed clinical and sociological studies than had been those of our forefathers. All scientific observation, then, concerning tuberculosis made prior to the discovery of the bacillus in 1880 needs to be accepted subject to revision, and for the purpose of this discussion we will refer only to recent knowledge, some of which may have been based upon ancient teaching, but all of which has been developed in view of a known causative agent and of studies made both from clinical and sociological standpoints within comparatively recent years.

In dealing with tuberculosis from a public health standpoint, it is necessary to have a general knowledge of the disease and, from an educational standpoint, to have specific knowledge of practically all that relates to it and in arriving at a conclusion where there is not uniformity of opinion, to take into consideration the various views and to determine which view is worthy to be adopted. There is not complete unanimity of opinion as to methods of handling the disease and as to what class of patients should be treated in sanatoriums, nor is there complete unanimity of opinion as to when implantations occur or as to what class of patients is most likely to infect others. There are those who believe that the only cases that are dangerous to the public are the far-advanced cases and they believe that these cases should always be treated in institutions and that the activity of a public health department should be chiefly concerned with the housing of the advanced case and practically the quarantining of such cases in hospitals. There are those who believe that the far-advanced case of tuberculosis is not the most dangerous because at such stage the individual's range of activity is limited to the dwelling, that the only persons exposed to these cases are those who have been already exposed for a period of years and who, if infected, have been infected some months or years before and that the transferring of such sufferer from home to a hospital is humanitarian, but in many instances is unkind, unnecessary and of doubtful value.

There are those who believe, and they are increasing in number (von Pirquet, Hamburger, Pottenger and others), that implantations usually occur in childhood, that in the first two years of life the disease is apt to be fatal, that the vast majority of the bronchial pneumonias and lobar pneumonias in infant life are but forms of acute tuberculosis, that at this period the disease is apt to be rapidly fatal, that at later periods in child life recovery is more apt to take place.

Pottenger, in his splendid article in the *American Journal of Diseases of Children*, under "Prevention" makes the following statement:—

"The preponderance of clinical evidence, then, throws our clinical tuberculosis, as it manifests itself in adult life, back to those early infections which occur in childhood. It is essential to understand this relationship because of its bearing on the rational measures to be adopted for its prevention and cure.

"It is these early infections which occur in childhood that eventually cause the clinical tuberculosis in adults, and which are responsible for the enormous mortality from this disease; then, the stamping out of tuberculosis, if it is ever attained, must come through either preventing the infection from occurring, holding it in a state of quiescence, or healing it out when it has once occurred. It seems almost an impossibility to think of being able to control the large majority of cases of open tuberculosis, which would be necessary in order to stamp out the disease by taking away the danger of infection. This difficulty is greatly increased by the fact that the open stage is often reached months and even years before the diagnosis is made. While we must surround the open cases with the most improved hygienic measures so as to take away every possible source of infection, yet I can not believe that such measures alone will ever stamp out tuberculosis. It must be stamped out by making the individual immune to infection or by curing the infection when it has occurred, thus preventing it from reaching the open stage."

Judging from pathological studies upon adults dead of diseases other than tuberculosis, a very large percentage shows that at some time pulmonary implantations have occurred, the individual recovering therefrom.

It is certainly true that many children dying from bronchial affections, notably bronchopneumonia, actually die from acute pulmonary tuberculosis. Those of us who have had an opportunity to follow a large number of children dying from bronchopneumonia, as a complication in the acute infectious diseases, have been surprised to find that a large number of them presenting at autopsy the typical morbid lesions of bronchopneumonia show tubercle bacilli on the simple staining of smear preparations taken from the pneumonic areas. There is a very rapidly growing tendency among students of pediatrics and those who have studied the pathology of lungs in infancy and early childhood to class a fair percentage of these bronchopneumonias as tubercular, and it would perhaps be safe to take a thousand deaths a year from the mortality lists of bronchopneumonia and a thousand a year from the list of lobar and unqualified pneumonia in early life and add to the death rate from tuberculosis.

In the last published report of the Department of Health, out of 3693 deaths from bronchopneumonia, 2443 were reported in children under two years of age; 2605 under five years of age; and of the lobar and unqualified pneumonia 7514 in number, 2499 were under two years of age and 2697 under five years of age; probably a thousand of these may have been acute tuberculosis. In this country we so rarely get autopsies on children that scant opportunity is presented for proving a terminal diagnosis. In the foreign hospitals, where autopsy is the rule in fatal cases, a more accurate terminal classification is secured.

Tuberculosis workers holding the latter view believe that with a lowered resistance, brought about by excessive fatigue, overwork from a lowered resistance due to bad feeding or defective housing, and excessive intemperance, these latent lesions develop into active lesions, the individual succumbing in adult life to lesions contracted in childhood. Then there is another group of observers which is firmly convinced that the open case of tuberculosis, the individual carrying tubercle bacilli in his sputum over a period of years, the moderately advanced case in which the individual with small cavity formation has a little expectoration at all times and that expectoration containing tubercle bacilli, the individual who is still at work and who in his work or recreation comes in contact with numbers of people and disseminates widely the bacilli in his sputum, is most frequently responsible for the infection of others.

Dr. Dixon believes in good part the two latter views, that many of the implantations causing death in adult life are from infections received in childhood, or at least from implantations occurring many years before, and, to agree with King, that the ambulating case with sputum laden with bacilli is far more dangerous than the far-advanced case.

"One of the most insistent demands of the prevention propagandists of the past few years has been for hospitals for advanced cases with the idea that this class of consumptives is the most dangerous to the community as a source of infection. That this class is the most helpless and makes the strongest appeal to our sympathies, and that as a rule it makes the most urgent demands upon charity, I do not question. The claims of this group of hopeless invalids upon human charity are incontestable. Whatever else may be neglected in this antituberculosis campaign, this call must be answered or we forfeit all claim to humanitarian sentiment.

"But let us not make the blunder of assuming that by providing asylums for this hopeless and forlorn class of sufferers we are thereby removing from the community the whole or even the chief source of danger. That such an assumption is an error, I am convinced. We know to-day that the chief source, we might almost say practically the only source, of infection in human tuberculosis is the phthisical patient with bacillary sputa. A patient in the last stages of consumption is supposed to produce a much larger quantity of sputum containing an enormous excess of bacilli as compared with the ambulant case. The former is, moreover, of necessity, confined within narrow limits as to space, and consequently within such limits there must be a very much higher concentration of virus, and a correspondingly higher degree of infectivity. In some measures this is true, although the difference between the virus producing capacity in the two cases is much less than is generally supposed.

"In the course of some recent observations made at Loomis Sanatorium, it was found that in a group of twenty-five far-advanced, bedridden cases the average amount of sputum per patient per day was 65 grams, with a bacillary content which may be represented by the fraction 21/25 (the denominator representing a theoretical maximum of this group). At the same time it was found that in a group of twenty-five ambulant cases, in good general health and appearance—such patients indeed as would pass in an ordinary community unrecognized as consumptives—the average amount of sputum per patient per day was 42 grams, with a bacillary content of 16/25, estimated in like manner as in the former case. It will be seen therefore that the difference in this respect is much less than one would naturally suppose.

"Now in the case of the last stage consumptive the zone of danger is necessarily brought within very narrow limits, although there is, of course, a higher concentration of the virus within these limits. I am assuming that we are dealing with careless patients and uninstructed attendants. But the ambulant consumptive, with his forty-two grams of bacillary sputa, has a wide range of activity; he is not only on the streets and in the shops, but in places of amusements, churches, and social gatherings, and enjoys such intimacy of contact with his fellows of both sexes as is limited only by his inclinations and his conscience.

"For my part, it has always seemed to me, therefore, that of the two, the ambulant case, with a bacillary sputum, is a far more prolific source of infection than is the last stage, bedridden patient, and when from the point of view of prevention it is argued that institutional provision for last stage cases is all-sufficient, I confess I can not agree. Institutional care and instruction must be provided for the early cases as well; indeed from this point of view of prevention sanatoria, for early stage, or, to put it differently, hopeful cases, are to my mind the more important and desirable of the two."

The policy of the state is to isolate advanced cases and treat, to prevent the disease from advancing, in the incipient and moderately advanced cases. The majority of cases cared for have been far advanced.

Encouragement to house and care for their own sick should always be given to communities and especially to the large cities, and cities with a population of more than 100,000 might very well build permanent hospitals for the care of far-advanced cases, but it is doubtful whether any community with less than 100,000 population could with advantage undertake the building of such an institution.

The department's plan is to build a few large institutions rather than many small institutions, as they will give the patients greater advantages which small sanatoriums can not afford. At Mont Alto Sanatorium, where at present we have 1050 patients, the per capita cost is but $1.15 per day, which figure will be reduced when the new is worn off our machinery. Taking the other charitable institutions in the state handling tuberculosis and figuring out their cost for all classes of cases handled, it is more than $1.65 per day. With the institutions now building, nearly 2000 beds being available, you will readily see an economy on 2000 beds between $1.15 and $1.65 of just fifty cents a day, or a saving to the department of an even thousand dollars a day. The department's view is that it is wiser to build each sanatorium of sufficient size to reach the maximum economy in management and to save the available funds for additional sanatoriums and other lines of tuberculosis work than to fritter away state funds in a large series of small institutions at a much greater cost for maintenance. A thousand dollars a day means $365,000 a year, more than $700,000 for a period of two years, a new sanatorium every time the Legislature meets.

In this country public interest in tuberculosis has been enlisted less than twenty years, although splendid scientific work was started early in the eighties and methods of producing immunity in susceptible animals was discovered and published by Dixon as early as 1889. It was not until Koch had confirmed Dixon's findings in the production of immunity and until tuberculin in the early nineties was hailed as a curative agent that even the medical profession became actively interested in curing and preventing the disease. The last decade of the nineteenth century had almost ended before educational work had been started in this country that led to careful statistical studies as to the prevalence of the disease, to a study of its mortality over any considerable area of the United States and to ways and means, first, of curing those afflicted and, secondly, of preventing those who may have been exposed to the disease from contracting it. In this modern crusade physicians at first were convinced that pulmonary tuberculosis existed only when tubercle bacilli were found in the sputum,and forthwith further trial was made of the ancient methods of treatment. During this period the teaching of Pliny was given further extended trial in this country, and sanatoriums were developed in the pine woods of New Jersey, and North Carolina; Galen's precepts were followed and patients were sent to the high lands of Colorado and New Mexico; Aretæus was imitated and seaside resorts were utilized for the treatment of this disease; and latterly, headed by the American pioneer in the treatment of tuberculosis, resorts close home were built and Trudeau demonstrated to Americans that it was not necessary to cross the continent or to seek a warm dry climate to effect a cure.

Still more recently physicians have come to recognize that any place in the country with sufficiently good drainage and elevation to rid the location of excessive dampness and with an air free from dust, ideal conditions may be found for the treatment of those suffering with tuberculosis. The profession having reached a degree of education that led it to accept certain facts, first, that the disease was of bacterial origin and, second, that it was curable, set about the self-sacrificing work of educating the public to accept these views and to coöperate with them in reducing the prevalence of tuberculosis to a minimum, and to do so in the most economical way possible with the least personal inconvenience to the afflicted and yet in a way that would probably produce the most rapid results. During the last decade of the nineteenth century and the first half of the first decade of the twentieth century, the work was almost entirely educational and missionary. The present health department of the commonwealth, coming on the scene in 1905, had only the general knowledge of the profession and the recorded experience of individual practitioners as a guide to the prevalence of the disease and to its devastating results, but fortunately had for its commissioner one who had been a pioneer in the scientific side of tuberculosis work as early as 1889, who had been a close student of the disease in the laboratory and in the public school system of the city of Philadelphia and a careful observer of methods applied to this problem in different European countries where he had gathered much clinical and pathological knowledge of the disease. The commissioner being supported by his advisory board, one of the earliest acts of the department, in 1905, was to place this disease among the list of reportable diseases and to direct that the Division of Vital Statistics should carefully compile figures as to the number of persons dying annually from tuberculosis, and the locations in the state where such deaths occurred.

The department, you will note, was organized in mid-summer, 1905, the machinery for gathering the statistics was not completed until late in 1905 and it was not until the end of the year 1906 that sufficient statistics were gathered to give a comprehensive view of the ravages of tuberculosis and even to approximate what might be required. During this time, however, the department aided powerfully in an educational way the various agencies already engaged in this work, and much study was given to the question as to what might best be done, as to how it might be done and at what probable cost. So thoroughly was the public aroused by the various educational campaigns that, by the autumn of 1906, the great political parties of Pennsylvania realized that they had it in their power to put up a good fight against the disease and voted a liberal sum to the State Department of Health to begin the battle.

The year 1907, then, may be said to be an epoch in the fight against tuberculosis by the state government, as it was in this year the Department of Health received its first appropriation of one million dollars for the purpose of starting the fight. The Act specified that $400,000 be expended in the establishment of free dispensaries for the treatment of the sick, the publication and dissemination of antituberculosis literature and the establishment of an educational campaign looking toward the stamping out of tuberculosis, and that $600,000 should be expended in building and maintaining one or more sanatoriums for the care of those who were indigent. The Act gave to the commissioner the right to take a tract of land in one of the state forest reservations for sanatorium purposes, granting the commissioner the privilege of taking over the small camp at Mont Alto which had been supported by the state for five years, if in his wisdom this were found to be a suitable place. With $1,000,000 available, with the statistics of 1906 before the department and backed by the Act, a comprehensive scheme was worked out tentatively that has been followed more or less in complete detail up to the present time. The provisions of the Act were carried out, going a little way at a time along each line of endeavor, attempting to perfect each detail without undue expenditure of funds and yet to secure results commensurate with expenditure from the very beginning, or, what was possibly still a higher aim, to secure results disproportionate to expenditure, results in advance of what might have been expected from the money expended. It was realized at the very outset that it would require great patience and enormous expenditures of money in order to obtain the results that had been set before the people in the preliminary educational campaign.

Almost immediately after the bill had been signed, a careful survey was made of the forest camp site at Mont Alto, and it was found to be a suitable place for building one large sanatorium. In order to secure larger accommodations a private sanatorium adjacent to the forestry camp, with buildings already in operation, was purchased, a number of tents were erected near by and within a few weeks the department began caring for 140 patients. At the same time architects were busily engaged in working out comprehensive plans for Pennsylvania's first great sanatorium. About this time you will remember the educational campaign had prepared the public largely for building inexpensive sanatoriums for early cases and we had been led to believe that by some years of effort of this kind those infected and treated early would be cured, those incurable would largely be nursed at home, would die off, dwellings would be purified by disinfection and the disease would be eliminated in fifteen years.

The first plan of the Mont Alto Sanatorium included accommodations for patients in all stages of the disease. The first section of the institution provided for a series of cottages, central dining room, a series of rest pavilions, waterworks and sewage works. So great was the demand for admission that as rapidly as cottages could be erected they were filled. The hospital which was included in the first plan was next erected. Administrative and staff buildings, central heating plant, laundry, additional sewage disposal units and all of the appurtenances came in natural order, none of them coming as quickly as we needed them, but all of them being developed with great celerity and perhaps with greater rapidity than any such institution has been built in other states.

Running parallel to the activity in building sanatoriums the other provision of the Act of 1907 was being carried out; namely, that of establishing dispensaries for those at home, and the educational work. A chain of dispensaries was established; first, one in each county seat throughout the commonwealth with a staff of physicians. In the beginning only the department's county medical inspectors were installed and they were supplemented, as the demand required, by assistant physicians, by nurses and later by additional dispensaries in the various populous centers of each county. While this organization work was being developed, a series of public lectures was given by officers of the department at various points throughout the state, circular letters and pamphlets were sent to clergymen, to physicians, to undertakers, to societies, to clubs, to boards of health, to senators and representatives, to all of the department's officers in the field or at home, and to the great press of the commonwealth.

The campaign in the years following the first appropriation went with leaps and bounds, so that by the end of the two-year period, when these funds were about exhausted, the legislature not only duplicated the appropriation of $1,000,000, but doubled it, appropriating $2,000,000; and the succeeding Legislature of 1911 again increased it three quarters of a million, giving a total of $2,624,808 for tuberculosis work alone.

As the sanatorium and dispensaries developed and as the department's statistical studies accumulated, new needs were found, but fortunately it has not been necessary to change the original plan in any essential particular. The dispensaries as organized, first, one in each county seat, a total of 67, have grown with the demand until to-day 115 dispensaries are in active operation and, from the 67 physicians at the outset, now a total of 222 are connected with these dispensaries giving free advice to all the indigent or temporarily indigent who may apply at the dispensaries. Connected with these dispensaries are 110 nurses. I wish it were possible to dwell at sufficient length on this phase of the work to show how far reaching a nurse's work is in the tuberculosis campaign. Starting originally to give succor to the sick, this corps rapidly developed into a combination corps of nurses and sociological workers, the two duties being combined in a single individual. The dispensary plan was that, by education and the arousing of public interest and by the coöperation of the physicians of the commonwealth, those who have the disease and their families who have been exposed to the disease, and are not able to employ a doctor, may secure free advice in the dispensary, and, further, that the nurse, sometimes the physician also, may go to the home of such patients and ferret out every possible source of the infection, give instructions in right methods of living, and, where other members of the family have been exposed to the disease and may already have pulmonary implantations, urge them to visit the dispensary, so that if infection has occurred it may be discovered while yet in the incipient stage.

The nurse, then, not only gives assistance where needed in the home of those indigent who are sick, but she performs a most valuable social service as she goes, teaching both by precept and example, and correcting the many small errors of living and feeding that could not be reached in any other way. The nurse acts as a feeder for the dispensary, while the dispensary, through its physicians, acts as a clearing house and feeder for the sanatorium, as a center for sociological work and localized educational work, and is a point from which may be distributed to all patients supplies required in protecting their families, sputum cups, paper kerchiefs and, where need is great, even the necessaries of life, such as milk and eggs.

The machinery of the department's tuberculosis organization makes it possible for every discharged dispensary patient, whether discharged as apparently cured, arrested or progressive, and for every patient discharged from the sanatoriums in similar condition to be followed up carefully every six months by the nurses in connection with the dispensaries and a careful record compiled setting forth the conditions of health of such persons at the time the nurse follows them up, a note as to whether or not the teaching inculcated at the hospital is being carried out, whether other members of the family are remaining well and what the occupation of the individual is at the time of the visit, together with a note of the earning capacity. These follow-up records, coupled with the original records filed in the dispensaries and sanatoriums, will eventually give the commonwealth data, concerning thousands of tuberculosis patients, that are bound to be the basis of all future administrative work in this state and will probably serve as a guide in many other commonwealths.

The department, since 1907, has examined and treated and, through the nurses, given instruction to 52,689 persons presenting themselves up to October 1, 1912, at the 115 tuberculosis dispensaries, and up to the first of November, 1912, more than 8250 have received the benefit of the free care and education in the state sanatorium at Mont Alto. In addition to this work, the traveling exhibit has been displayed in nearly every large center of population in the commonwealth, nearly a million pieces of tuberculosis literature have been distributed throughout the state and hundreds of lectures and talks have been given by department representatives. The work has only fairly well begun. It is mammoth in size and it will require a Hercules to complete the work.

With the larger appropriation becoming available in 1909 and later in 1911, further development was made all along the line and plans were made to build additional sanatoriums. Finding that the department was seeking a site in the Allegheny Mountains for building a sanatorium convenient of access to the great centers of population in the southwest section of the state, Mr. Carnegie donated an appropriate site near Cresson, where within a few days 340 additional sanatorium beds become available. Profiting by experience at Mont Alto, this institution, standing almost at your door, with its 340 beds, has been planned to house a larger percentage of moderately advanced and advanced cases of tuberculosis requiring considerable nursing. This sanatorium is so planned that 180 beds are what would be termed by some as hospital beds and 160 are cottage beds. The cottages duplicate those at Mont Alto, originally designed by Dr. Dixon, asbestos being used a little more liberally in sheathing, the entire institution and the cottages being almost fire proof. The latter part of the summer, the third institution in the department was placed under contract to be built on a piece of land purchased just outside of the borough of Hamburg in Berks County, the first contract providing for a building which is believed will be very elastic. By adjustment it will be adapted for all classes of cases. It will care for 400 patients, the ward buildings being a duplicate of the ward sections at Cresson. The administration building, dining rooms, heating plants, waterworks, sewage works, etc., at each of the latter institutions are large enough that, if the demands require it, additional sections may be added to each, more than duplicating the bed capacity without adding further to administrative buildings, to heating and lighting plants, cost of waterworks with additional units, as required, to sewage works.

The department's activities in the tuberculosis campaign, then, at the present time may be briefly summarized as follows: Educational work in the broadest sense, in that it aims to reach the greatest number of individuals in the commonwealth who read the English language (some of our literature has been put in at least four foreign languages), by utilizing the press, the pulpit, the profession, week in and week out, month in month out, all the year round; educational work through the dispensaries by direct teaching from a corps of doctors and nurses and by association with other patients who have been taught to protect themselves and friends from further infection; educational work at the sanatoriums in that many cases not curable are corrected of the vicious habits, and right methods of living are drilled into them. It is humanitarian and charitable, in that it takes care of all indigent tuberculosis cases that can possibly be reached either in the home through the dispensary staff or in the sanatorium, no case being considered too near the grave for us to assume charge.

The plan is to take care of all cases of tuberculosis and not restrict ourselves to any particular class; to educate all patients with tuberculosis so that they may not be a menace to themselves, their families or those with whom they come in contact; and to be guided in the building of the state sanatoriums by our past experience and the demands for beds. We are to-day operating 1050 beds at Mont Alto and within a few days will operate 340 at Cresson and, with the completion of Hamburg, the total bed capacity will reach nearly 1900. Possibly at some future time, if the Legislature of the commonwealth sees fit to grant larger funds, additional buildings may be erected, and it is barely possible that, with the growth of population in other sections of the state, additional sanatoriums may be required.

Probably the time is not far distant when we may seriously consider increasing infantile resistance to tuberculosis. It has been shown repeatedly that babies at birth, even though their parents be tuberculous, are practically free from all signs of the disease, that nearly all infection is postnatal. A great many physicians are seriously considering immunization of the infant not yet infected by the use of some of the tubercle bacillus products. Probably the time is not far distant when this sort of immunization may be started; first, in the children of the tuberculous and probably later in other infants.

Fortunately, it is now a great and growing function of the medical profession to search out the laws about epidemics, and those outside enemies of man, and to teach to you, the public—dull, stupid pupils you are, too, as a rule—the ways of nature, that youmay walk therein and prosper.—OSLER.

SCINTILLATING SCOTOMATA ASSOCIATED WITH MIGRAINE.

BY LUTHER C. PETER, A.M., M.D.,
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(Read before the Philadelphia Clinical Association, October 7, 1912.)

Scintillating scotomata associated with migraine are not unusual and medical literature is not wanting in careful studies of the numerous forms observed, but a final analysis as to the etiology of this interesting phenomenon does not enable us to formulate a theory which will stand without challenge. The difficulties are two-fold: First, the phenomenon is subjective, or at least so fugacious as rarely to admit of proper objective observation; and, second, few victims, if any, present at autopsy a brain uncomplicated by other processes, so as to make autopsy findings of any great value. We are forced, therefore, to confine our studies largely to the clinical phenomena, and to draw our deductions from the facts at hand.

In a study of the ophthalmic form of the disease, it is well for us not to forget that there are other forms of sensory disturbance, as, for example, an aural type associated with tinnitus or unilateral deafness, monoplegic and hemiplegic tingling, and various forms of aphasia; that a motor or ophthalmoplegic form is recognized by some, *i. e.*, temporary paresis or paralysis of one or more ocular muscles may follow migraine, or be a part of it; and that a variety is also observed in which psychoses are part of the phenomena. Bearing in mind these types, we will not commit the error of looking for the primary cause of the ophthalmic variety in peripheral ocular irritations.

The type of scintillating scotomata usually observed is best illustrated by the following case history:—

Miss J. R.,[1] aged twenty-four, seamstress, complains that for years she has suffered from headaches. During the last few years they have increased in frequency, and are preceded by a pyrotechnic display, dazzling lights and colors, blurred vision, with spots of darkness following. This phenomenon lasts for ten to fifteen minutes, and is promptly followed by severe headache, usually hemicranic in type. Her eyegrounds are entirely normal, and her refractive error is as follows: O. D. + S 0.50 ⌒ +C 0.75 Ax. 135°=20/20; O. S. + S 1.00 ⌒ +C 0.75 Ax. 80°=20/40.

Her mother suffered in her earlier years from a similar type of headache.

This is the type usually observed, and a type which may be relieved by careful correction of refractive errors and muscle imbalance. The scintillations in this type are not hemianopic, and therefore suggest peripheral irritation.

A type less frequently met with, and one of much greater clinical interest is illustrated by the following:—

Mr. H. S., aged thirty-two, is a telegraph lineman by trade. His days are spent out of doors in following his vocation, and his evenings are devoted to a study of higher mathematics and drawing. Three years ago he began to have attacks, which he describes as follows: Flashes of light, zigzag in shape, and arranged in the form of a crescent, the peaks of which are rose-colored and the sides of silver and gold, dazzle before the left side of his visual field. It is visible with either eye open or closed. The dazzling is always to the left. Following this in a few moments there appears a field of absolute darkness to the left, rarely including, if ever, the entire field, but usually extending sharply to the center of the visual field. Usually there is a clear space, though somewhat indistinct, above, beneath, and to the left. Duration of darkness varies from a few moments to a few hours. Headache did not follow the first attacks. In a short time, however, after the appearance of this phenomenon, severe headaches developed, usually hemicranic in type, and as a rule on the left side, *i. e.*, the side in which the blindness appeared. The headaches vary in duration from an hour to five or six hours. Occasionally they are accompanied by nausea, but rarely by vomiting. There are no motor disturbances

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[1] Service of Dr. Wendell Reber, Polyclinic Hospital.

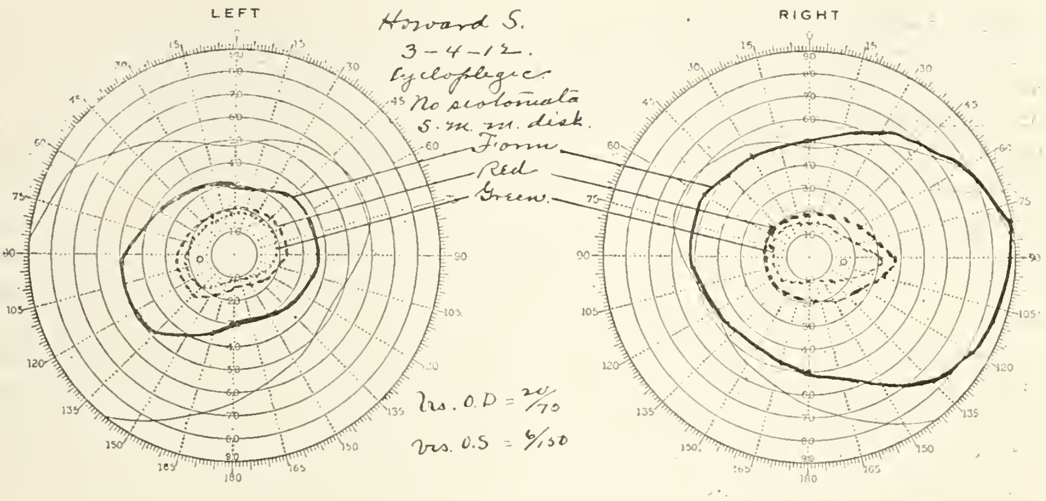

FIG. 1.

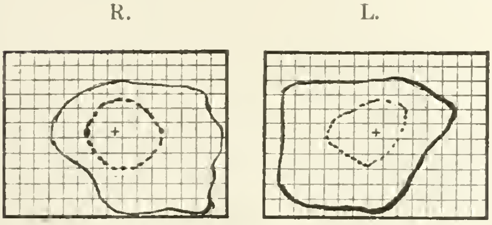

FIG. 2. Howard S., 3-9-12. Correction on.

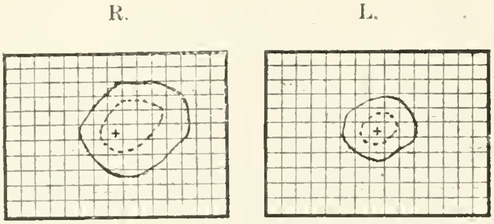

FIG. 3. Howard S., 6-1-12. Without correction. Fields taken one hour after attack.

either in the eye or in the general muscular system. Attacks have grown in frequency and severity, occurring as often as once daily, and as infrequently as once in three months.

The ophthalmologic examination shows normal anterior optic segments, with a normal muscle balance. The eyegrounds are practically normal. Vision in O.D. is 20/15 and in O.S. 20/30 partly. He shows a latent refractive error of O. D. + S 1.50 ⁐ +C 0.25 Ax. 90°; O. S. +S 3.25 ⁐ +C 0.50 Ax. 180°. His manifest correction is O. D. +S 0.50 ⁐ +C 0.25 Ax. 90°; O. S. +S 1.50 ⁐ +C 0.50 Ax. 180°. This correction gives him perfectly normal muscle balance at twenty feet, and an exophoria of seven degrees at thirteen inches. Fields taken on the perimeter, without correction, show a general contraction for form and color in the left eye. With correction on, the fields taken on the campimeter are good and equal, and show no scotomata. The fields represented on plate No. 3 were taken one hour after an attack. Note the contraction of both fields for form and color, showing the nerve inhibition following the period of stimulation.

It has not been my good fortune to study either fields or eyegrounds during an attack of the hemianopic blindness. The patient, however, gives a good, concise, and intelligent description of his case, and it is altogether likely that he has, during the attacks, typical hemianopic absolute scotomata, which include the greater part of the left field of each eye.

Neurologically, the examination of the patient is negative. He, however, is of a nervous temperament. Since wearing his correction, he has had but six attacks, but they were quite severe in type. His glasses have been adjusted sufficiently long to show the good results of wearing the proper correction. During the last four months, he has had but two attacks close together, and his judgment is that he has been much improved. The patient's mother in her younger days suffered from headaches associated with red lights.

Homonymous hemianopsia can have but one seat of lesion, namely, in the optic tracts, posterior to the chiasm, and the phenomenon as herein described can be brought about only by disturbances of the higher perceptive centers in the cortical areas of the cuneus. The dazzling lights, or photopsia, mean abnormal stimulation or irritation of the cortex. The subsequent scotomata are the result of exhaustion or inhibition. The phenomenon in the above case was always referred to the left field, indicating therefore disturbances of the right cortex. The pain usually was on the left side, *i. e.*, that opposed to the lesion, differing in this respect from what we find in the average case; pain as a rule is on the side of the cortical disturbance.

The phenomenon is explosive in type, its manifestations being analogous to epilepsy in many respects, particularly in sequence, —aura, overstimulation, inhibition, pain. Numerous theories have been advanced as to the pathological condition which gives rise to the symptoms, including refractive errors and muscle imbalance, spasm of the peripheral arteries, with secondary dilatation, various forms of toxemia, etc., but instability of the higher visual centers in the cuneus, from whatever cause it may arise, must be assigned as the underlying condition.

Is this instability influenced by peripheral or reflex irritation? Clinical evidence is in favor of this view. Unequal and irregular refractive errors, as shown in the second case, undoubtedly have some determining influence in precipitating the attacks, just as it is possible to precipitate an attack of epilepsy in a similar manner. The refractive error in the second patient under discussion is irregular, and this, associated with his habit of an out-door life during the day and close application during the evening hours, must have some determining influence in bringing about his headaches. Muscle imbalance should be regarded as even a more powerful factor in these cases. We can not, however, regard peripheral irritation as other than contributing causes, and treating them as such, provide for their elimination.

The dominating factor is heredity. The gross and minute pathological findings, if present, can only be a matter of conjecture, as trustworthy evidence, so far as I have been able to find in a thorough search through literature, is meager. A careful study, however, usually reveals hereditary taint, not necessarily direct, *i. e.* the presence of migraine in other members of the family, although this is usual, handed down as it is especially from the mother, but hereditary taint in an indirect and broader sense, the heredity of a neurotic stock. Mills has been able to trace migraine through five generations, and in fully fifty per cent. of cases other members of the same family are sufferers from this form of headache. It is not unusual, however, to find epilepsy, hysteria, chronic alcoholism, tabes, and other neurotic manifestations in other members of the family when migraine can not be traced in a direct manner.

In the matter of treatment, ophthalmology must necessarily play a conspicuous rôle. No one who has seen much epilepsy will doubt the value of ophthalmic intervention in a restricted number of cases, and in migraine the field is usually larger. A careful study of the muscle balance and the correction of imbalance, if present, is imperative. The same is true of refractive errors. To treat a case of migraine without a study of these two conditions would mean neglect of the patient. Careful correction of refractive errors and the restoration of muscle equilibrium may have little if any effect on a large number of cases, but in a restricted number of cases an amelioration or modification of the disease may be expected, and in a few instances a cure may be effected.

I am an old man and have had many troubles, but the most of them never happened.—Selected.

OBSERVATIONS PREDICTED UPON ONE HUNDRED AND THREE CONSECUTIVE OPERATIONS UPON THE THYROID GLAND.

BY W. D. HAMILTON, M.D.,
Columbus, O.

There were in the practice of Dr. Charles S. Hamilton and the writer, between January 15, 1908, and April 23, 1912, seventy-eight consecutive occasions upon which patients having the various kinds of goiter or Basedow's disease were operated upon without a fatality. On the last one hundred and three occasions upon which we have done operations upon the thyroid gland there have been but three deaths.

The ultimate operation for Basedow's disease is the removal of a considerable portion of the gland. Some patients may require the preliminary ligation of the superior thyroid vessels of one or both sides. Such patients generally improve in strength and weight so as to be able later to withstand the necessary partial thyroidectomy.

Many of the operations we do under local anesthesia, and we find a remarkable absence of shock and pneumonia when a local anesthetic is used. Patients are given beforehand the assurance that they may, if they wish, have a general anesthetic. The testimony of those who have permitted local anesthesia has been favorable to its employment. We have used it in about forty per cent. of the entire list of one hundred and three cases. The general results of these thyroid operations have been satisfactory both to the patients and to ourselves. The large proportion of the patients are either greatly improved, or are restored to good health.

Increasing pressure upon the windpipe with flattening or narrowing of its lumen, greater damage to the heart and lungs (so belabored are they in their physiological action), bleeding into the substance of the growth, and the changes to malignancy are recognized as the chief perils to which patients with goiter are exposed. From this it may be assumed that the pressure exerted by a growing goiter is a fact of great importance to the patient. The fact that many patients do seem for a time to tolerate the pressure of the goiter in spite of its occasionally considerable size seems to satisfy many medical minds that it may be a matter of indifference as to whether operation be done or not. Where, however, pressure is becoming manifest to the patient, especially if it excites dyspnea, operation should be done.

Nodular portions of the gland can often be felt. They may be fibrous or cystic, calcareous or hemorrhagic, or may be undergoing the earlier stages of malignancy. They may be located largely below the suprasternal notch. The lower down their location, the more deleterious the pressure effects. The various iodin preparations are of no therapeutic use in such cases, and if repeatedly injected into the substance of the growth, thrombosis or sepsis may result; or should operation be done later, leathery, dense adhesions may greatly enhance the difficulty and risks. So demonstrable pressure by a goiter is ordinarily an indication for operation. A rapidly growing goiter, or one that presents unusual features or that dips into the thorax usually strongly indicates operation.

Without reference to the general subject of ordinary goiter, one should habitually inspect and palpate the thyroid gland, and should bear in mind two functional peculiarities, one or the other of which the thyroid may show. There is a natural myxedema, with atrophy of the thyroid gland. Here the organ is unable to perform its functional duty. Its secretion is not what it should be as to quantity, and perhaps, too, in quality. Mild degrees of this type of disease are probably being taken for anemia. Puffiness about the face, a harsh or scaly condition of the skin, slowness of speech, tardy intellection, drowsiness, incapacity for physical effort may here be manifest, and, if the coterie of symptoms be complete, there may be a small slow pulse and abnormal coolness of the extremities, and the latter may show a kind of brawny edema that does not pit on pressure. Such patients, even though incomplete in symptomatology, may show improvement on thyroid feeding.

We more often, however, have the other peculiarity of the gland typefied by an excessive secretion of the organ. This is very liable to be associated with some enlargement of the gland, which may be localized or general. Such patients may be wrongly considered neurasthenics. More or less rapidity of pulse, sleeplessness, tremor of the hands, occasional exophthalmus, incapacity for sustained physical or mental effort, diarrhea, sweats (a more or less complete set of symptoms) may here give us Basedow's or Graves' disease or exophthalmic goiter. One should be careful to prove that the tachycardia, if present, be not due to phthisis pulmonalis, with which it might be confused. The sputum, if there be any, should be examined. The microscopic findings in the hands of a professional bacteriologist to prove or disprove tubercle bacilli may be positive, or if there be any doubt as to the identity of the bacillus, the sputum may be injected into a guinea pig, an experiment which a few weeks' delay and an autopsy on the animal would demonstrate. Suffice it to say that it is of the utmost importance to deal with these cases with an open diagnostic mind. To try with sedatives to subdue the heart of a patient with Basedow's disease is usually futile, for it will be impossible, by the use of drugs of any sort, to check the flooding of the organism by the excessive, and perhaps perverted or toxic, thyroid secretion.

These cases are surgical. They call for an early surgical consultation. Kocher, who last spring completed his five thousandth operation upon the thyroid gland, says that the surgical treatment is the treatment par excellence for these cases. Operated upon early, men and women so affected may, within a reasonable time, be restored to health and usefulness. The deaths and disappointments, in patients who may have needed thyroid surgery of whatever kind, are in those as a rule who have been, before reaching the surgeon, the subjects of unfortunate procrastination.

PROFESSIONAL COURTESIES.

So far as my observation goes, the fault lies with the older men. The young fellow, if handled aright and made to feel that he is welcomed and not regarded as an intruder to be shunned, is only too ready to hold out the hand of fellowship. The society comes in here as professional cement. The meetings in a friendly social way lead to a free and open discussion of differences in a spirit that refuses to recognize differences of opinion on the nonessentials of life as a cause of personal animosity or ill-feeling. An attitude of mind habitually friendly, more particularly to the young man, even though you feel him to be the David to whom your kingdom may fall, a little of the old-fashioned courtesy which makes a man shrink from wounding the feelings of a brother practitioner—in honor preferring one another: with such a spirit abroad in the society and among its older men; there is no room for envy, hatred, malice or any uncharitableness. It is the confounded tales of patients that so often set us by the ears, but if one makes it a rule never under any circumstances to believe a story told by a patient to the detriment of a fellow practitioner even if he knows it to be true, though the measure he metes may not be measured to him again, he will have the satisfaction of knowing that he has closed the ears of his soul to ninety-nine lies, and to have missed the hundredth truth will not hurt him. Most of the quarrels of doctors are about nonessentials, miserable trifles and annoyances, the pin pricks of practice, which would sometimes try the patience of Job, but the good-fellowship and friendly intercourse of the medical society should reduce these to a minimum.—Osler.

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ATHENS, FEBRUARY, 1913.

The American nation will have lost considerably by having utilized in the production of mere material wealth the best years of a great part of its available womanhood, when the nation itself is so much in need of sons and daughters born under the flag and reared in the traditions of all that has made the United States progressive, powerful and enduring.—Sir Thomas Oliver, M.D., F.R.C.P.

PROPRIETARY MEDICINE IN AUSTRIA.

With the exception of serums and vaccines, medicinal products of all kinds may be made and sold at wholesale by any one who cares to engage in the business, be he chemist, lawyer, barber or butcher. Of course there is the Food and Drugs Act under which those who sell fraudulent medicines may be prosecuted, but, considering the extent to which the enforcement of the law has been interfered with, the risk of punishment from this source is not great. And so the medical profession is offered paraffin oil[1] as a treatment for syphilis and the public is offered milk sugar as a sure cure for hay fever and malaria.[2] In Austria a government permit must be obtained for each proprietary medicine which it is proposed to sell. Further, the permit is issued only after the remedy is examined and continued only if examination of the preparation, from time to time, shows it to be reliable. In line with this control, an examination of commercial digitalis preparations[3] was recently made in Austria in the chemical-pharmaceutical laboratory of the Ministry for the Interior, to which is entrusted the control of proprietary medicines in Austria. As a result, the investigator recommends that pharmacists make their own tincture of digitalis from leaves of tested strength, while preparations of tinctures by the dilution of fluid extracts is severely condemned. Of seventeen proprietary preparations examined only three or four were of the strength claimed. Among those which were found deficient in strength were digitalone and digalen, while digipuratum was found to have the strength claimed. It is reported that so far the sale of only two proprietary digitalis preparations has been authorized.

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[1] *Jour. A. M. A.*, May 15, 1909, p. 1595.
[2] *Jour. A. M. A.*, March 4, 1911, p. 685.

While the reports of the Council on Pharmacy and Chemistry of the A. M. A. Chemical Laboratory and those of the Hygienic Laboratory of the United States Public Health Service are familiarizing physicians with reliable and unreliable preparations, there seems to be no prospect that a majority of manufacturers will place reliable preparations of digitalis, ergot, etc., upon the American market unless government control is established in regard to the reliability of such preparations.

S.

VANADIUM IN MEDICINE.

Among the proprietary medicines which caused some interest during the past year were the preparations of the Vanadium Chemical Company. This interest or, rather, curiosity was aroused chiefly because compounds of this element are not used in medicine and also perhaps because the newspapers have given us some idea of the value of the element as an addition to steel. It is interesting to learn, therefore, that the Council on Pharmacy and Chemistry has examined these preparations and has concluded that the claims made for them are not based on sound evidence. The report[1] says, "Vanadiol and preparations thereof, the products of the Vanadium Chemical Company, were submitted to the Council. After thorough investigation it was concluded that the company has not, and never has had, any reliable evidence for the therapeutic claims it has presented to the medical profession regarding these products." It should be noted that the Council does not assert that vanadium has no medicinal virtues, but it properly takes the stand that vanadium preparations should not be used in the treatment of the sick until their probable value has been demonstrated. In this connection it should be stated that certain proprietary preparations of vanadium have been exploited in France for some time, without, however, having made a place for themselves—at least no compound of vanadium has been recognized in the French, nor for that matter, so far as we know, in any other foreign pharmacopeia.

S.

PHYSICIAN, HEAL THYSELF.

The following excerpt from the January number of the *Journal of the Indiana State Medical Association,* one of the medical journals that make an honest effort to have their advertising pages in harmony with the editorial pages, is worthy of emphasis.

"We howl about the iniquitous action of editors of the lay press in advertising medical fakes, but we have no right to preach on that subject until we clear our own skirts of practices that are just as questionable. In fact, what we need is an awakening of the consciences of a few of the editors and managers of medical journals and particularly those journals that are owned and published by medical societies."

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[3] *Jour. A. M. A.*, Jan. 11, 1913, p. 143.

[1] *Jour. A. M. A.*, Jan. 18, 1913, p. 225.

The advertising pages of the religious and lay press can not be reformed until after otherwise reputable medical journals cease carrying objectionable advertising, and the editors and publishers of independent medical journals will not decline profitable advertising contracts unless their subscribers protest against the quality of advertising. Those in charge of some journals owned and controlled by medical societies find it difficult, without the aid derived from objectionable advertising, to issue the kind of a journal they wish to publish. It has been said that corporations have no souls, but it is hoped that it can never be truly said that medical societies have no consciences. The individual physician, who is anxious for the uplift of his profession and for the betterment of conditions, should make his protest felt in his local medical society and as a contributor and subscriber to independent medical journals.

Before the Council on Pharmacy and Chemistry of the American Medical Association was instituted, the editor of the Journal found it very difficult to decide what advertisements to accept and what to decline, even after extended correspondence with various experts in medical therapeutics. All proprietary remedies that have not received the approval of the Council are declined. Dependence upon the formula given by the manufacturers of a preparation was found to be a delusion and a snare.

The Journal could be very much improved in many ways if it had a larger income. The more advertising pages carried the better the journal you will receive, and the advertisements should be read and mentioned when writing advertisers or dealing with them personally. Members of our society can rely upon houses that advertise in the Journal, and it is not too much to ask that they patronize these houses so far as they can when making needed purchases. S.

WORK FOR THE COMMITTEE ON HEALTH AND PUBLIC INSTRUCTION.

One of the most important committees in the appointment of the state society is that on Health and Public Instruction. And yet, it is a work that can not be accomplished by the central committee alone, but a work which is particularly dependent upon the county committees. The local men will probably know best how to bring a subject effectively before the community, and will know better than an outside committee what subjects will from time to time most interest their people. In one community there may be an agitation on sanitation of the schools or prisons, or other institutions; in another a "swat the fly" campaign may be on, which the committee could assist by instructing regarding the dangers from the fly as carriers of disease; instruction upon tuberculosis and cancer, and the many subjects in which the laity is uninformed or misinformed, may be timely.

It is the duty of the medical society to give the right instruction, always, of course, avoiding subjects which might excite unseemly controversy. The local committees can best judge how to bring before the public these timely health subjects, whether through the public press, by lectures on the public platform, through the schools, school boards, or teachers' institutes, all are matters left to the discretion of each county committee. The success of this work and the usefulness of the central committee, therefore, can be obtained only by the hearty support and coöperation of the local county committees.

The Allegheny County Medical Society is giving this work much study and many valuable suggestions are incorporated in its reports, which are printed under Bulletin Excerpts and should be read by every member of the state society. The Medical Society of Franklin County has been actively working through the schools and teachers.

The committee of the state society would appreciate reports from every county as to its activity or inactivity along this line, or suggestions for furthering the work. On the other hand, the committee is willing to assist the local committees in any manner possible. We believe the proposition of the Allegheny County Committee to make the Committee on Public Health and Instruction of each county society a standing committee is a good one, as its sphere of activity will vary with public progress. With each committee doing some work along this line, a tremendous amount of good can be accomplished to the credit of our profession. J. B. Mc.

WILL YOU WRITE A PAPER FOR PHILADELPHIA?

The Committee on Scientific Work met at Pittsburgh, January 25 and outlined an interesting scientific program for the Philadelphia Session, September 23, 24, and 25, 1913. It was decided to ask for five volunteer papers for the general meetings, and seven volunteer papers each for the Section on Medicine, the Section on Surgery, and the Section on Eye, Ear, Nose and Throat Diseases. Members are invited to proffer papers at once for these meetings. The subject and a brief outline of each volunteer paper must be submitted by May 1 for the consideration of the committee. The best papers offered will be put on the program. Ten minutes will be allowed for the reading of each accepted paper. Officers of county societies are asked to urge their best men promptly to offer papers for this "The Largest Medical Meeting in the East This Year." Titles and outlines may be sent to the chairman of the committee, to any one of the section officers, or to the secretary. For names and addresses see advertising page VI.

The preliminary report of the Committee on Arrangements proves that the Sixty-third Annual Session of the Medical Society of the State of Pennsylvania will certainly surpass previous gatherings of the society from both the scientific and social standpoints. Members should plan to spend a whole week in the city. Why not make this a part of your vacation?

Lawrence Litchfield, Chairman.

PAPERS FOR THE SURGICAL SECTION.

Members of the state society desiring to present papers before the Section on Surgery at the Philadelphia Session are requested to communicate at once with the secretary of the section. Even at this early date the program promises to be unusually attractive in that the titles thus far submitted are all on live topics of the day, decidedly practical and by men well fitted to present their subjects in an interesting manner. F. E. Keene.

Changes in Membership of County Societies.

The following reports have been received since the January Journal was printed:—

Allegheny County: *New Members*—Andrew M. Barr, O. Martin Eakins, James R. Freeland, Charles B. Maits, Louis Lasday, Edward M. Warnick, Pittsburgh; H. F. Fisher, Oscar I. Polk, Louis G. Rubenstein, Finley K. Whitfield, Braddock; William E. Hodgson, Glassport; T. E. McMurray, Wilkinsburg; Hugh S. Maxwell, Elrama (Washington Co.); Francis G. Snyder, Sharpsburg. *Death*—Andrew Truax Veeder (Albany Med. Coll., '63) in Pittsburgh, January 4, aged 70. *No Longer a Member*—Aida Sloan (married, moved away). *Removal*—Joseph P. Egan from Hoboken to 218 Braddock Ave., Braddock; Karl H. Van Norman from Pittsburgh to Johns Hopkins Hospital, Baltimore, Md.; Earnest Zublin from Pittsburgh to 807 St. Paul St., Baltimore, Md.

Armstrong County: *New Members*—Jesse E. Ambler, Carl H. Robinstein, Ford City; James R. McDowell, Freeport; James E. Quigley, Adrian. *Removal*—Gus I. Slagel from Carthage, N. C., to New Orleans Polyclinic, New Orleans, La.

Beaver County: *Deaths*—Walter D. Engle (Univ. of Pittsburgh, '01) in Aliquippa, January 12, from blood poisoning, being infected while operating; Daniel C. Ross (Jefferson Med. Coll., '07) in Ambridge, January 20, aged 30.

Berks County: *New Members*—Horace E. Schlemm, LeRoy J. Wenger, Reading; Lucia Anna Wheeler, Wernersville.

Bradford County: *Resigned*—Harry O. Kingsley.

Butler County: *Death*—Raymond H. Pillow (Jefferson Med. Coll., '76) in Butler, January 10, from secondary processes incident to cerebral hemorrhage, aged 59.

Cambria County: *New Members*—Arthur W. Beatty, Colver (by transfer from Philadelphia Co.); Augustus E. Smith, Elizabeth C. Smith, South Fork. *Removals*—Jacob A. Comerer from Vintondale to 303 East Twentieth St., New York City; E. T. Ealy from Emeigh to Barnesboro; George F. Speicher from St. Michael to Rockwood (Somerset Co.).

Chester County: *New Members*—Bayard Kane (by transfer from Philadelphia Co.); Chester A. Witmer, West Chester; John H. Burkartmaier, Avondale; John K. Evans, Malvern; John H. Johnson, Unionville; John W. Merryman, Toughkenamon.

Dauphin County: *New Members*—John H. Bryner (by transfer from Perry Co.), George L. Laverty, Harrisburg; John H. Whiticar, Gipsy (Indiana Co.). *Death*—William L. Ziegler (Coll. of Physicians and Surgeons, Baltimore, '81) in Steelton, January 20, aged 57. *Resigned*—Robert A. Stewart (left state).

Delaware County: *New Members*—William Evans, Chester; Harvey P. Feigley, Eddystone; Mary R. Hadley Lewis, Swarthmore.

Elk County: *No Longer a Member*—Peter W. Leitzell. *Removal*—Howard C. Crum from Conemaugh (Cambria Co.) to St. Marys.

Erie County: *Resigned*—Adella B. Woods (to become an honorary member).

Fayette County: *New Members*—George H. Griffin, George Hibbs Hess, Uniontown. *Transfer*—Homer H. Lewis, Penfield (Clearfield Co.), to Jefferson County Society.

Franklin County: *Removal*—William S. Ash from Keedysville, Md., to Hagerstown, Md.

Huntingdon County: *New Members*—Henry C. Chisolm, Harry B. Fetterhoof, Huntingdon; John S. Herkness, Mt. Union.

Indiana County: *New Member*—James G. Fisher, Indiana.

Jefferson County: *New Members*—John Wesley Ferman, Luthersburg (Clearfield Co.); Edgar Lee Hughes, Helvetia (Clearfield Co.); Homer H. Lewis, Penfield (Clearfield Co.); George M.Musser, Punxsutawney; John Whann, Jr., Jefferson Line (Clearfield Co.). *Resigned*—James E. Ginter.

Lackawanna County: *Removal*—E. Frederick Morris from Scranton to Glen Falls, N.Y.

Lehigh County: *New Members*—Mahlon G. Miller, Siegfried (Northampton Co.); Edgar L. Sowden, Slatedale.

Luzerne County: *New Members*—Daniel W. Collins, Wilkes-Barre; Lloyd Mott Holt, Shickshinny. *Deaths*—John A. Burlington (Baltimore Med. Coll., '90) in Duryea, January 2, aged 56; Frank L. McKee (Bellevue Hosp. Med. Coll., '82) in Wilkes-Barre, January 13, following an operation for appendicitis, aged 52. *No Longer a Member*—Edward A. Sweeney.

Mercer County: *New Members*—Lawrence N. Breene, Farrell; Emma McBride, Grove City; Carl Bailey, Jamestown.

Mifflin County: *Removal*—D. Clark Nipple from Newton Hamilton to Mt. Union (Huntingdon Co.).

Montgomery County: *New Members*—John Alexander Galbreath, Pottstown; R. Vincent Wolfe, Norristown.

Northampton County: *New Member*—Allen Oscar Kisner, Bethlehem.

Northumberland County: *New Member*—Clarence Hiram Malick, Rebuck. *No Longer Members*—Joseph Kowaleski, James O. Mohn.

Perry County: *New Member*—Harvey B. Woods, Blain. *Transfer*—John H. Bryner to Dauphin County Society.

Philadelphia County: *Transfers*—Arthur W. Beatty to Cambria County Society; Bayard Kane to Chester County Society. *Death*—Ralph F. Sommerkamp (Medico-Chirurgical Coll., Philadelphia, '99) in Philadelphia, December 23, from diabetes, aged 47.

Schuylkill County: *No Longer a Member*—Albert A. Seibert.

Somerset County: *No Longer Members*—Frank A. Detrick, Frank B. Righter. *Removal*—Maurice Stayer from Rockwood to 1729 North Paxon St., Philadelphia (Philadelphia Co.).

Tioga County: *New Member*—David A. Patterson, Westfield.

Venango County: *Resigned*—John E. Taylor (to become an honorary member).

Washington County: *New Member*—William Ernest Hart, Washington.

Westmoreland County: *No Longer a Member*—M. A. St. Peter (removed from county).

Wyoming County: *New Member*—Clarence L. Boston, Center Moreland. *Removal*—William W. Lazarus from Wilkes-Barre (Luzerne Co.) to Tunkhannock.

Present membership 5933. S.

Payment of Per Capita Assessments.

Component county societies have paid their per capita assessment for the year September 1, 1912, to September 1, 1913, as shown below:

Oct. 1,	Huntingdon County	$ 70.00
Oct. 1,	Dauphin County	270.00
Oct. 2,	York County	188.00
Oct. 3,	Adams County	36.00
Oct. 3,	Allegheny County	1644.00
Oct. 3,	Carbon County	56.00
Oct. 4,	Westmoreland County	228.00
Oct. 8,	Warren County	100.00
Oct. 9,	Montgomery County	182.00
Oct. 10,	Lehigh County	146.00
Oct. 11,	Sullivan County	20.00
Oct. 17,	McKean County	92.00
Oct. 17,	Wayne County	58.00
Oct. 19,	Philadelphia County	2800.00
Oct. 22,	Northampton County	210.00
Oct. 28,	Fayette County	204.00
Oct. 30,	Butler County	88.00
Nov. 6,	Clarion County	70.00
Nov. 18,	Jefferson County	126.00
Nov. 22,	Venango County	98.00
Nov. 26,	Erie County	176.00
Nov. 27,	Chester County	120.00
Dec. 5,	Armstrong County	128.00
Dec. 7,	Lancaster County	282.00
Dec. 7,	Northumberland County	92.00
Dec. 20,	Lycoming County	196.00
Dec. 20,	Tioga County	62.00
Dec. 28,	Center County	60.00
1913.		
Jan. 16,	Luzerne County	318.00
Jan. 20,	Potter County	50.00

G. W. Wagoner, Treasurer.

Johnstown, Feb. 7, 1913.

STATE NEWS ITEMS.

DIED.

Dr. Orville Horwitz (Jefferson Med. Coll., '83) in Philadelphia, January 28.

Dr. Louis B. Balliet (Univ. of Pennsylvania, '54) in Allentown, January 29, aged 81.

Dr. William F. Decker, in Newfoundland, January 26, from lobar pneumonia, aged 57.

Dr. Edward H. Small (Jefferson Med. Coll., '85) formerly of Pittsburgh, February 3, aged 43.

Dr. William E. McGrew (Eclectic Med. Coll., Cincinnati, '86) in Pittsburgh, January 16, aged 47.

Dr. Simon Goldmann (Imperial-Royal Univ., Vienna, Austria, '89) in Pittsburgh, December 14, aged 49.

Dr. Horace Joseph Gibbons (Univ. of Vermont, Burlington, '99) in Carbondale, November 17, aged 37.

Dr. Albert H. King (Jefferson Med. Coll., '94) in Riddlesburg, December 20, from pneumonia, aged 45.

Dr. Richard C. Allen (Hahnemann Med. Coll. and Hosp., Philadelphia, '68) in Philadelphia, January 19, aged 84.

Dr. Robert D. E. Follweiler (Baltimore Univ. Sch. of Med., '98) in Allentown, January 27, from complications that arose from overwork in handling an outbreak of typhoid fever.

MARRIED.

Dr. John W. Wright and **Dr. Katherine H. Law**, both of Erie, January 1.

Dr. Henry B. Davis and Miss Annie Watt, both of Lancaster, January 21.

Dr. Heister H. Muhlenberg and Miss Anna Miller, both of Reading, January 22.

Dr. Elwood T. Quinn, Jenkintown, and Miss Helen Rute, Doylestown, January 22.

Dr. Frank R. Nothnagle and Miss Florence Dyson, both of Chester, January 27.

Dr. Jacob A. Ruben, Pittsburgh, and Miss Helena A. Gesundheit, Chicago, recently.

Dr. Herbert C. Leigh and Miss Ella W. Heiberger, both of Easton, December 30.

Dr. Edwin C. Town, Narberth, and Miss Margaret Gutelius, Mifflinburg, January 29.

Dr. Raymond C. Creasy, Wilkes-Barre, and Miss Lenore A. Waldon, Philadelphia, January 3.

ITEMS.

Dr. J. W. Ellenberger, Harrisburg, has returned from Europe.

Dr. Matthew Woods has been elected president of the Philadelphia Society of Arts and Letters.

Dr. P. Y. Eisenberg was recently elected president of the Norristown Charity Hospital Association.

Dr. J. Solis-Cohen is to be the guest of honor at the banquet of the Mount Sinai Hospital Alumni Association, New York, February 22.

The Physicians' Protective Association of Easton and vicinity recently elected Dr. Victor S. Messinger, president, and Dr. W. Gilbert Tillman, secretary.

The State Hospital for the Criminal Insane, Fairview, Wayne County, opened its doors for the unfortunate wards committed to its care on December 17, 1912.

The Hannah T. Croasdale Fellowship Fund. The Women's Medical College of Pennsylvania plans to establish a fellowship to honor the memory of Dr. Croasdale. Contributions can be sent to the treasurer of the fund, 460 Bullitt Bldg., Philadelphia.

The Bryn Mawr Hospital receives by bequest in the will of the late Miss Kate Clevenger, Lower Merion, $5000 for the establishment of a free bed in the children's ward, in memory of her brother, and $5000 for a free bed in memory of her parents.

Wholesale Appendicitis. Twenty-nine boys from the St. Francis Industrial School, at Eddington, were operated upon for appendicitis recently within a period of ten days, sixteen in one day. The overeating of cheese is said to have been the cause of the epidemic.

The Medico-Legal Society of Philadelphia has elected the following officers for 1913: President, Dr. W. D. Robinson; first vice-president, Dr. E. W. Kelsey; second vice-president, Benjamin H. Schwartz, Esq.; secretary, Dr.W.T. Hamilton; treasurer, Dr.G.M.D. Peltz; censors, Drs. F. J. Kelly, A. M. Eaton, and Samuel Scoville, Esq.

The University of Pittsburgh School of Medicine has applied for membership in the Association of American Medical Colleges. Dr. W. J. Means of the Judicial Council of the Association spent January 28 and 29 in Pittsburgh examining the school, hospitals and laboratories, and decided to report favorably on the application for memberhip in the association.

Measles in Pennsylvania. There were 1262 cases of measles reported in Pittsburgh in December with 23 deaths. In January there were 1130 cases with 17 deaths. Since March, 1912,there have been 6979 cases with 170 deaths. Measles has also been epidemic in Philadelphia, Lancaster and elsewhere, closing schools, causing deaths, and resulting in chronic diseases.

Smallpox in Pennsylvania. The nineteenth case of smallpox at Chester was reported January 27. Six cases were reported January 15 in Elk Lick Township, Somerset County. Three cases of smallpox were reported January 19 at the Chester County Home; one of the patients died January 21. Six cases were reported at Rodman, Blair County, January 29, and two cases, January 30, at Roaring Spring. One case was reported in Mauch Chunk, February 2. A few cases are also reported in Philadelphia.

Dr. Irving S. Haynes of the Cornell University Medical School delivered a lecture on "The Treatment of Meningitis by Drainage of the Cisterna Magna" before the Jefferson Hospital Clinical Society, Friday evening, January 17. The presentation was illustrated by lantern slides and discussed by Drs. W. L. Rodman, C. H. Frazier, J. Chalmers Da Costa, H. A. Hare, F. X. Dercum and S. MacCuen Smith. In the afternoon of the same day Dr. Haynes demonstrated his operation on the cadaver at the Daniel Baugh Institute of Anatomy.

A New Work on the History of Medicine. W. B. Saunders Company, publishers, of Philadelphia and London, have in active preparation a work on the History of Medicine by Dr. Fielding H. Garrison, principal assistant Librarian, Surgeon-General's Office, and editor of the *Index Medicus.* His book will present the history of medicine from the earliest ancient and primitive times. There will be appendices covering medical chronology, histories of important diseases, of drugs and therapeutic procedures, of important surgical operations, and bibliographic notes for collateral reading.

The Medical Club of Philadelphia held its annual meeting, January 17. Some six hundred members were present to welcome President Taft who spoke on hygienic conditions in the Philippines and in the Canal Zone. The following officers were elected: President, Dr. James C. Wilson; first vice-president, Dr. Wilmer Krusen; second vice-president, Dr. McCluney Radcliffe; secretary, Dr. William S. Wray; treasurer, Dr. Lewis H. Adler, Jr., governor, Dr. S. Lewis Ziegler; directors, Drs. Clarence P. Franklin, G. Morton Illman, John W. West, Ellwood R. Kirby, William D. Robinson.

Dr. Horwitz's Bequests to Jefferson. Three bequests of $5000 each to the Jefferson Hospital to found free beds are made in the will of Dr. Orville Horwitz. Dr. Horwitz also bequeathed to the college and hospital his medical and surgical books, specimens, diagrams and instruments. One of the beds is to be named the Orville Horwitz and is to be in the genito-urinary ward; another, the Phineas J. Horwitz, "in memory of the late medical director and surgeon general of the United States Navy," to be in the men's surgical ward, and the third, the Caroline Norris Horwitz bed, in the gynecological ward.

Vital Statistics. The State Department of Health on February 8 gave out the following statistics for the month of November, 1912: The total number of deaths during November was 8577, and the total number of births was 17,216. These figures take no account of the number of stillbirths, which was 760. The deaths during November were distributed as follows: Typhoid fever, 120; scarlet fever, 54; diphtheria, 236; measles, 66; whooping cough, 40; influenza, 55; malaria, 10; tuberculosis of the lungs, 597; tuberculosis of other organs, 112; cancer, 423; diabetes, 76; meningitis, 37; acute anterior poliomyelitis, 7; pneumonia, 929; diarrhea and enteritis, under 2 years, 273; diarrhea and enteritis, over 2 years, 93; Bright's disease and nephritis, 678; early infancy, 531; suicide, 81; accidents in mines, 96; railway injuries, 111; other forms of violence, 551; all other diseases, 3401.

The Allegheny County Medical Society and Public Health. The following resolutions were presented to the Allegheny County Medical Society, January 21:—

1. *Resolved,* That the Allegheny County Medical Society urge the Amendment of the Pennsylvania State Law of 1870, relative to advertisements of treatment of diseases peculiar to men, etc., and to the sale, use, etc., of drugs and instruments to induce abortion, so that the advertising specialist of diseases of men, etc., may be effectively prosecuted and that no druggist or other person can sell a catheter to other than physicians except upon a physician's prescription.

2. *Resolved,* That the Allegheny County Medical Society request the Bureau of Health of Pittsburgh to use more stringent measures to compel the street railways company to make street cars more sanitary.

3. *Resolved*, That the Allegheny County Medical Society urge the passage of more stringent laws regulating the sale of narcotics, particularly heroin, etc.

4. *Resolved*, That the Allegheny County Medical Society endorse and will assist all efforts being made to enact a law forbidding the marriage of unfit, as feeble-minded, epileptics, tubercular, those with venereal diseases, etc.

5. *Resolved*, That the Allegheny County Medical Society request the Bureau of Health to extend its requirements of law for reporting infectious diseases to include the reporting of syphilis and gonorrhea by initials of those infected or by some method in order that the Health Department may know the number of cases which occur.

6. *Resolved*, That the Allegheny County Medical Society request the Bureau of Health to require birth reports to be made within one day following the birth of the child.

Moved that these resolutions be referred to the Committee on Public Policy and Legislation and that a committee of three members be appointed to secure the enforcement of existing laws relating to questions mentioned in these resolutions.

GENERAL NEWS ITEMS.

Surgeon-General of the Army. The reappointment of Brigadier-General George H. Torney as Surgeon-General of the U. S. Army was confirmed by the Senate on January 11.

Sterilization Urged. Governor Spry, in his message to the Utah State Legislature on January 14, recommended the passage of an act requiring the sterilization of the hopelessly insane and of criminals convicted of certain statutory crimes.

Judgment for X-Ray Injuries. A woman patient in Chicago was, on January 19, awarded a verdict of $10,000 against a practitioner of that city for alleged disfigurement and injury to eyesight from use of *x*-rays to remove a mole, without proper protection of the rest of the face.

Judgment for Alleged Malpractice. A jury in the Supreme Court of New York on January 10 awarded damages of $11,700 to a woman patient for alleged unskillful treatment of a fractured leg, the claim being failure to use the *x*-rays and properly to place the bones in apposition.

Splitting of Fees. Governor Marshall in his message to the Indiana Legislature recently said: "In the interest of high professional training I recommend that the act creating the Board of Medical Registration and Examination be amended so as to require the Board to revoke the license of a physician who splits his fee with an expert physician or surgeon."

New and Nonofficial Remedies. Since January 1 the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion with New and Nonofficial Remedies: Vacules digitol, H. K. Mulford Co.; sodium gylcerophosphate, Monsanto Chemical Co.; staphylococcus pyogenes aureus vaccine, staphylococcus pyogenes albus and aureus vaccine, pneumococcus vaccine, meningococcus vaccine, G.H. Sherman; isatophan, isatophan tablets, Schering and Glatz; hediosit, Farbwerke Hoechst Company.

Diabetes Mellitus. Dr. William E. Fitch, 355 W. 145th St., New York, is undertaking an exhaustive research into the pathology, etiology and dietotherapy of diabetes mellitus. Van Noorden says, "The best treatment for the diabetic is the *food* containing the *greatest* amount of *starch* which the patient can bear without harm." Dr. Fitch is anxious to hear, even if by only a card, from every physician in the United States who has a case under treatment, or who has had any similar or contrary experience.

National Druggists' Home. The National Association of Drug Clerks, supported by the druggists of the United States, has purchased the Palmyra Springs Sanatorium for a national apothecaries' home. The building will be used as a home for old and infirm druggists and as a resort for druggists in the summer time. The Board of Trustees has issued an appeal to the druggists, clerks, manufacturers, employees and traveling salesmen in the United States that each send a valentine, on February 14, containing $5, to the home in care of the Farmers' Savings Bank, Palmyra.

A Society for the Advancement of Clinical Study has been organized in New York City, the purpose of which is to maintain a bureau of information which will furnish to physicians definite information regarding the clinical facilities of the hospitals and laboratories of the greater city. A bulletin board has been installed at the Academy of Medicine, 19 West 43d Street, in charge of a special clerk to answer telephone inquiries (Telephone 974 Bryant). The bulletin board will consist of two sections. On one will be posted month by month, the regular clinics, medical and surgical, and also laboratory demonstrations, all of which are held at stated hours. The second section will include full announcements of daily operations and demonstrations of medical and surgical cases, which as far as possible will be announced on the day preceding their performance.

Assistant in Experimental Therapeutics Wanted. The U. S. Civil Service Commission announces an open competitive examination, March 10, 1913, for assistant in experimental therapeutics, Philippine Service, for men only. From the register of eligibles resulting from this examination certification will be made to fill a vacancy in the position of research assistant in experimental therapeutics in the Bureau of Science, in Manila, Philippine Islands, at a salary of $2000 a year, and vacancies as they may occur. This position offers to the ambitious and capable physician a wide field for experimental therapeutics work. The Bureau of Science possesses one of the largest and most favorably known research laboratories in existence and is in the immediate vicinity of the Philippine General Hospital, which is probably the best institution of its kind in the Eastern Hemisphere. In view of the excellent opportunities presented qualified persons are urged to enter this examination. It will not be necessary for applicants to appear at any place for examination. Their eligibility will be determined upon the evidence furnished in connection with application and examination Form B. I. A. 2, concerning their training and the work which they have accomplished. Persons who comply with the requirements and desire this examination should at once apply for Form B. I. A. 2 to the United States Civil Service Commission, Washington, D. C.

COUNTY BULLETIN EXCERPTS.

The Bulletin, ALLEGHENY.

REPORT OF THE COMMITTEE ON HEALTH AND PUBLIC INSTRUCTION.

To the President and Members of the Allegheny County Medical Society: We feel that in no way can we give to all our members such a clear idea of the character of the work we have been engaged in during the year 1912, than by reproducing here our Report No. 1 and Report No. 2, which were read at the May and June meetings of our society:—

REPORT NO. 1 OF THE COMMITTEE ON PUBLIC INSTRUCTION, MAY, 1912.

The Committee on Public Instruction desires to call the attention of the society to the growing importance and the wide scope of the work with which your committee has to deal. In the near future the extent of our work is sure to increase very rapidly, in fact its present volume now exceeds our most limited facilities for handling it. We are not only swamped with requests of various kinds, which we are unable to handle promptly, but when our president suddenly requested us, which he has recently done, to arrange, on a few days' notice, all the details of a public meeting to discuss "The Owen Bill" we found ourselves unable to accede to his reasonable request. Our refusal to do so is the principal reason for this report.

We feel that our efforts are being unduly hampered by the lack of many things, some of which may conveniently be considered under the following two headings: First, the lack of a well-defined and comprehensive policy concerning the extent and exact scope of our duties; second, the lack of the proper machinery and means to carry this policy into effect.

We have set ourselves the task of building, for the guidance of this society, a general outline by which we hope to meet not only the conditions which your committee can not now cope with successfully, but which will enable future committees of this kind to take up the work where we lay it down. We hope also to outline in detail, and in a practical manner, a plan by means of which we believe your committee will be able to carry more promptly into effect any duties which this society may ask them to do. We expect to be able to present this second report to this society at our June meeting.

This might be an opportune time to point out, in some detail, some of the difficulties, and other points of interest, which should be borne in mind when the merits of the policy which we are going to propose come up later for discussion. Certainly one of the duties of the Allegheny County Medical Society is to protect its members against imposition on the part of the general public, and we feel that some instruction along these lines could very properly be given to the public by your committee. The American Medical Association, through its able Council on Health and Public Instruction, has fully decided upon a definite policy for public instruction, and has entered upon an energetic campaign to carry this policy into effect. Our State Committee on Public Instruction has also taken up the work along the same lines. It must, however, be remembered that both the national and state committees will necessarily have to depend, for at least part of their success, on the manner in which they are able to secure the hearty and helpful coöperation of the individual members of our profession through the local county societies. Only in this way can the best results be secured with the least possible amount of effort and friction. This means not only good team work, but presupposes a certain definite division of labor; *i. e.*, certain phases of the work should be assigned to that committee which can best do that work. In this way only can necessary duplication of work be avoided. As local conditions necessarily vary in each county, it should be largely left to the discretion of each county committee, which special form of instruction should either be or not be employed. Not only this, but the actual work of how to reach certain desirable individuals or societies in each county can best be accomplished by the existing local county committee. It is earnestly to be hoped that every member of this society will bear in mind the manifold character of the duties which this committee, sooner or later, are sure to be asked to perform, and that they will realize also that no committee, however willing and able, can hope in future to perform such duties, with satisfaction to the society, without being first definitely instructed as to their exact scope. Furthermore, this society must see the necessity of furnishing this committee and our successors with the necessary means of carrying out efficiently such duties as our society may wish to impose upon them. It will be inferred from the foregoing that we propose also in our second report to suggest a definite plan by means of which such a policy can be carried out. This will ultimately mean the establishment of a more or less permanent "Bureau," with all the organization and equipment necessary to take charge of presenting all matters of medical interest to the public. The first step in this work is to provide at once your committee with the means of having made a large, comprehensive and accurate mailing list.

This list should comprise all the names and addresses of various prominent individuals, societies, etc., which we may wish to reach in a hurry. Such a list will take some time to compile, and it will have to be carefully revised to avoid duplication, but when once done and paid for, the expense of utilizing it will not be very great.

REPORT NO. 2 OF THE COMMITTEE ON PUBLIC INSTRUCTION, JUNE, 1912.

At our May meeting your committee made a preliminary report concerning several matters which we desired to call to your attention. As this first report has been printed in full in the May 25 number of our county bulletin, we will only refer to it briefly.

It will be remembered that in this May report we agreed to outline a general plan which, we hope, if approved and adopted by this society, would not only enable future committees to begin their work where the former committee left off, but by having a well-defined policy to guide them, would enable them to make their activities more efficient. Our suggestions and recommendations may conveniently be considered under the following headings:—

First: Proposed change in the name of this committee. By consulting the *Bulletin*, it will be seen that the present name of our committee is "Board of Public Instruction," and directly below, is the "Committee on Public Health and Education." As the general duties of both these committees are very similar, we propose that in future they be thrown into one with the title "Committee on Health and Public Instruction." This is in harmony with the titles of similar national and state committees, and will enable all three committees to coöperate in harmony with each other, and not have their work overlap. We propose to make this committee a permanent standing committee like the Milk Commission. We would suggest having it composed of seven members, six to be appointed by the president, and the seventh to be a woman to represent the women's club. Two men for three years, two men for two years, and two men for one year. Under this arrangement two new members would in future be appointed each year, and four old members would always be left to carry out the general policy outlined for them by the society. If not reappointed, each member would serve for three years, which is long enough for any man to serve on the same committee.

Second: Suggestions regarding the general policy which should be laid down for the guidance of this proposed committee.

We are of the opinion that it would not be wise at first to outline in a detailed manner the general policy under which this committee should work. Activity along the lines of public health and instruction is just beginning, and we believe that the work which this committee will ultimately be called upon to do by this society, will largely be a matter of slow evolution. Hence we would recommend that at first only two general restrictions should be imposed upon them.

1. That nothing should be brought before the public which could in any way excite any professional controversy, or concerning which the profession is not in complete accord.

2. That this committee aim at first to limit their activities to but one or two definite lines of work and try to make a success of these, before they attempt to enlarge their sphere of usefulness or activity.

3. The advantages of putting at their disposal a comprehensive and accurate mailing list.

COMMUNICATIONS.

IN ANSWER TO "A CORRECTION."

To the Editor: If "A Student of 1877" will go to the trouble to take my "Life of D. Hayes Agnew" and turn to page 146, she will find the letter she quotes in your January issue and a full explanation of the circumstances of the reelection of Dr. Agnew to the Pennsylvania Hospital. I will simply quote a few lines, "After his election there were undoubtedly a number of female students who attended his lectures but he interpreted their presence to ignorance of his views on the subject."

Dr. Tyson is correct in his statement; Dr. Agnew resigned the day women students were given permission to attend lectures at the Pennsylvania Hospital for reasons given in his biography which seemed to him to be sufficient for his action and the suggestion was made by the Board at the time of his reëlection that "women should not be present at his lectures or should be asked to withdraw if in the judgment of the lecturer an operation was to be performed which he considered unfit for their presence."

Whether his views were correct or not, Dr. Agnew did not care to lecture to women students and "A Student of 1877" was present simply because he was too courteous to ask her to withdraw.

In conclusion I would state that "Dr. Agnew did not oppose the admission of women into the medical profession, nor did he wish to deprive them of the chance to study venereal diseases but he did not think the 'mixed clinic' was the proper place for them to acquire this knowledge."

Yours truly,
J. HOWE ADAMS.

Paoli, January 21, 1913.

WHO KNEW DR. ALEXANDER R. WYETH?

To the Editor: Can you give me any information concerning a Dr. Alexander R. Wyeth who served during the Civil War, first in the Sixth Cavalry of Pennsylvania, 1861, and was discharged in 1865 from the 208th Pennsylvania Infantry. I wish to know from what part of the state he came.

Yours sincerely,
M. C. WYETH, M.D.
1823 19th St., N. W., Washington, D. C.

REVIEW.

A COMPEND OF HUMAN PHYSIOLOGY, especially adapted for the use of Medical Students. By Albert P. Brubaker, A.M., M.D., Professor of Physiology and Medical Jurisprudence in the Jefferson Medical College. Thirteenth edition with 36 illustrations. Philadelphia: P. Blakiston's Son and Company, 1912. Price, Cloth, $1.00 net; Interleaved Edition, $1.25.

Dr. Brubaker's experience as professor and lecturer in anatomy and physiology in several institutions and as quiz-master enables him to give the essentials in a condensed and practical form. The work appears to be in harmony with present-day methods and teachings.

L. F. P.

THE ANATOMIC HISTOLOGICAL PROCESSES OF BRIGHT'S DISEASE. By Horst Oertel, M.D., Director of the Russell Sage Institute of Pathology, New York. Octavo of 227 pages, with 44 illustrations and 6 lithographic plates. Philadelphia: W. B. Saunders Company. Cloth, $5.00 net.

This work is constructed upon the stenographer's notes of five lectures, delivered at the request of the resident staff of the New York City Hospital during the winter semester, 1908 to 1909, in the Russell Sage Institute of Pathology.

The modest title gives no hint of the fine character of the book. The type is large and clear, and the paper a heavy plate of the finest description. The illustrations are works of art and give the true "anatomical idea" of the structure of the kidneys in their various elements, in health and in disease. Probably no one is more capable than the author of presenting pathological conditions of the kidney as seen in Bright's disease. S. B.

A MANUAL OF THE DISEASES OF INFANTS AND CHILDREN. By John Ruhrah, M.D., Clinical Professor of Diseases of Children in the College of Physicians and Surgeons, Baltimore. Second edition, thoroughly revised. Octavo: 423 pages; 112 illustrations. Philadelphia: W. B. Saunders Company.

In the second edition, this book has been revised, numerous changes having been made to bring it up to date. Several new paragraphs have been written which add materially to its value, such as the medical inspection of school children, duration of contagion after infectious diseases, and on the return of school children after exposure to contagious diseases.

The volume makes an excellent reference handbook and is heartily recommended to all general practitioners who wish ready access to diagnostic points and therapeutic procedure in the diseases of children. The bibliography, which completes the volume, has been wisely selected by the author, the references being merely to manuscripts written in English where the reader can find a more extended list on the same subject. S. B.

DISEASES OF CHILDREN FOR NURSES. Including Infant Feeding, Therapeutic Measures Employed in Childhood, Treatment for Emergencies, Prophylaxis, Hygiene and Nursing. By Robert S. McCombs, M.D., Illustrated. Second edition, thoroughly revised. Philadelphia: W. B. Saunders Company.

This textbook in pediatrics for nurses, one of a series issued by this firm, originally published in 1907, has now reached its second edition. It has been extensively revised, and the chapters on artificial feeding of infants, on intestinal diseases, and on therapeutics have been especially amplified and improved. The book, which was developed from a series of lectures to nurses at the Children's Hospital of Philadelphia, should be serviceable to teachers as well as to pupils and graduates. Its arrangement is excellent, and its illustrations many and admirable. S. B.

A TEXT-BOOK OF SURGICAL ANATOMY. By William Francis Campbell, M.D., Professor of Anatomy at the Long Island College Hospital. Second edition, revised. Octavo of 675 pages, with 319 original illustrations. Philadelphia: W. B. Saunders Company. Cloth, $5.00 net; Half Morocco, $6.50 net.

The single purpose of this book is to aid the students and practitioners in mastering the essentials of practical anatomy. Due acknowledgment of the various sources from which the material has been gleaned is made in the bibliography appended. The facts themselves are the products of many minds and the accumulation of many years. Those facts only have been selected which have a practical bearing, and those structures and regions emphasized which have a peculiar interest for the surgeon. The illustrations greatly enhance the value of this work, being both original and accurate. S. B.

PATHFINDERS IN MEDICINE. By Victor Robinson. *Medical Review of Reviews.* New York, 1912. Price, $2.50, postpaid.

In this book of 317 pages the brilliant writer gives a study of Galen, Aretæus, Paracelsus, Servetus, Vesalius, Paré, Scheele, Cavendish, Hunter, Jenner, Laennec, Simpson, Semmelweis, Schleiden, Schwann and Darwin. There is a portrait of each with the exception of Aretæus and Semmelweis, and for the latter there is given as a frontispiece "The Semmelweis Monument, Budapest." The book is dedicated to Ernest Haeckel who acknowledges the dedication in a hand-written letter in German. There is also an introduction by Abraham Jacobi in which he says, "The author's facts as related are absolutely correct, and the warm-hearted sympathy with which the reports of bygone times and men are drawn up, will arouse the reader's enthusiasm and gratitude." These chapters make interesting reading for the student of medical history. S

SOCIETIES.

PHILADELPHIA LARYNGOLOGICAL SOCIETY.

Meeting of December 17, Dr. George W. Mackenzie, vice president, in the Chair.

Permanent Diplopia Following Killian Operation on the Frontal Sinus. Dr. Ross Hall Skillern gave a demonstration of three patients:—

1. K. M. was operated on April, 1911. Diplopia appeared three weeks after operation, due to interference with action of trochlea. Diplopia is gradually disappearing.

2. B. S. was operated on June, 1912. Diplopia, both monocular and binocular, appeared immediately after operation. Monocular condition cleared up in a few weeks, binocular diplopia persisting. Under adjusting glasses the condition is gradually improving.

3. M. D. was operated on July, 1912. Diplopia appeared six weeks after operation, and is due to interference with the action of the superior oblique. The wound immediately above and below the bridge of the external angle of the wound became infected during convalescence and suppurated. Healing occurred by second intention.

Dr. J. Norman Risley, in discussing the ophthalmological aspect: I think it is surprising that permanent diplopia is not more frequently a sequela of radical operation of accessory sinuses as advocated by Dr. Killian, since to obtain the ideal result obliteration of the normal anatomical relations of the trochlea and pulley of the tendon of the superior oblique muscle is practically obligatory. That this complication is not oftener met I believe is due to either an establishment of compensatory action of the other extrinsic ocular muscles or a reattachment of the pulley near its original site by cicatricial contraction of the newly formed connective tissue.

I have seen only one of the cases presented this evening. It was of exceptional interest for, in addition to the binocular diplopia secondary to the operation, there was a monocular diplopia of the left eye which subsequent study could attribute only to functional origin, since all of the acknowledged pathological and mechanical lesions producing this phenomenon were undemonstrable. The patient, a girl, who had worked from childhood at a loom in a large textile mill, was typical of the undernourished,—thin, with a sallow opaque skin, and nervous system at highest tension. She had suffered from constant frontal headache for six years until relieved by Dr. Skillern's operation. Her visual fields showed the interlacing of the color lines associated with hysteria. Vision was reduced to 2/3 in each eye, although there were no pathological lesions present and the refraction error practically nil. The amount of the binocular deviation varied from day to day, and the monocular diplopia of the left eye was noticeable to the patient only when the right eye was covered. It was, however, demonstrable with the maddox rod and ruby glass placed before the left eye, and the patient instructed to look at a point of light at six meters when two lines and two ruby lights were seen in addition to the white light. After a careful refraction under atropin, rest, tonics, and regulated diet, the monocular diplopia disappeared but the organic diplopia is still present in the same degree, although the patient states that she believes it less troublesome.

Dr. H. Maxwell Langdon, ophthalmological aspect: I have been especially interested in studying the involvement of the ocular muscles in these three cases since they are the first I have had an opportunity to examine.

The first case shows a diplopia significant of a paresis of the left superior oblique muscle, but not absolutely typical, probably because the 19 months which have elapsed since the operation have allowed the inferior rectus to cover up some of the deficiency. The image of the left eye is below that of the right, about 14 degrees, the diplopia is homonymous, and the images are slightly more separated on looking down and to the right than they are in other parts of the field of fixation, without doubt a superior oblique involvement.

The second case, also a left-sided operation, has a typical superior oblique diplopia, the image of the left eye being always below, the separation increasing greatly in the lower field, especially on looking down, and to the right. Before I saw her, she claimed a monocular diplopia of the left eye, which was present on her first examination after the operation, she had complained of diplopia on coming out of the ether. I think this monocular diplopia must have been entirely functional, it has disappeared as mysteriously as it came, the usual organic changes which may be responsible for a monocular diplopia are absent, there is no dislocation of the lens, no partial absorption of the cortex, which might have allowed the nucleus to tilt, and spasm of the ciliary muscle was ruled out by the atropin instilled for refraction.

The third case has a very unexpected diplopia, which has come on a long time after the operation. When I heard the history I supposed that the contraction of the unusual amount of scar tissue present had caught the trochlea, and was interfering with the action of the superior oblique, but to my surprise the superior oblique is quite active and the diplopia is a crossed one, with the images level and apparent only in the extreme left portion of the field of fixation, and as much above as below; typical of a deficiency of the left external rectus, but undoubtedly due to a contraction of the tissues around the inner canthus caught in the scar and presenting a complete relaxation of the internal rectus or the parts immediately around it.

Undoubtedly the muscle most likely to be affected in the radical operation on the frontal sinus is the superior oblique, since a necessary step in the performance of the operation is the separation of the periosteum including the trochlea from the inner wall of the orbit. That this important structure in preserving ocular equilibrium is always accurately replaced seems to me to be doubtful, but that it is usually approximately returned to its former position seems likely in view of the few cases having a permanent diplopia after the operation.

Dr. G. M. Coates: These frontal sinus radical operations are always of interest, not only on account of the improved results that sometimes occur, but also for the excellent results frequently obtained. In two of them the cosmetic result is perfect, and in the third, we must remember that the presence of a very large sinus must necessarily leave a depression. Why we do not have more permanent diplopia has always been somewhat of a mystery to me when we consider that the attachment of the superior oblique muscle of the eye is destroyed, and even when it is replaced in about exactly its original position.

Direct Laryngoscopy. Dr. C. A. O'Reilly gave a demonstration of the new Kahler bronchoscope with indications for its uses. Anesthesia is effected by means of the Marschik laryngeal syringe. The barrel is filled with a solution of cocain, twenty per cent., and adrenalin, in the proportion of ten to one. With the laryngeal mirror the application is made to the laryngeal surface of the epiglottis and the vocal cords.

There are three applications made, and there should be an interval of from two or three minutes permitted between each application. Caution the patient that after the first application there will be a sensation of smothering or choking, which, however, will shortly pass away. In direct tracheobronchoscopy, after the operator has passed the vocal cords, a spraying tube should be introduced through the tube of the bronchoscope and the larynx and lower trachea anesthetized with ten per cent. solution of cocain and adrenalin. In children under ten years of age, or in a very nervous anemic or emaciated person, there should be general anesthesia.

For examination, there are two varieties of spatulas for use in the adult. They are 15 cm. in length, one 14 mm. wide, the other 11 mm. wide. For the typical examination, the spatula of 11 mm. wide is preferable. The spatula affords a field of vision twice as great as the closed tubes without causing the patient any greater inconvenience.

After the patient has removed his collar and any obstructing articles of clothing or false teeth, he should be placed on a stool 20 to 30 cm. in height. An assistant should stand behind and support the patient's head and upper part of body in the requisite position. The spatula should be fitted to the electroscope, and the mirror should be warmed over an alcohol lamp, the spatula being annointed with pure sterilized glycerin. The process may be divided into three steps: (1) Bringing into view the lingual surface of the epiglottis; (2) passing beyond the epiglottis and pushing it aside; (3) pushing the tube deeper through the vocal cords into the larynx.

1. The patient should bend head back very little, surgeon introducing spatula exactly in median line, not too vertically, so that when the tongue is depressed the upper edge of epiglottis comes into view. It is most important through all of these steps that the examining surgeon's eye should remain at all times close over the slit in electroscopic mirror. After the free edge of the epiglottis has been brought into view the end of the spatula should be slightly raised and passed over epiglottis in median line.

2. Patient's head should now be held back a good deal more. At same time, while keeping exactly in the middle line, the surgeon should exert powerful pressure in a forward direction on the root of tongue, but should not allow the tube, which is resting in the angle between

thumb and forefinger, to move in any deeper. It is very advisable during this procedure to have patient utter a continuous sound. This not only diminishes tendency to pressure, but also renders orientation much easier. The arytenoid cartilages now enter the field of vision, the posterior commissure, the vocal cords, and the anterior commissure.

Have the patient's teeth properly protected with a good size pledget of cotton.

Some mistakes that may occur: Improper anesthetization. (2) Excitement or fear on the part of the patient; he should be told that at the worst he will feel an unpleasant, but quite bearable pressure on the tongue, and that he must go on breathing quietly and regularly. (3) Patient must be told not to bend his head back rigidly, but should let it be in an easy and natural position, and do not let the patient slip forward on the seat and then take up a position with body inclining backward. In this position examination is almost impossible. Patient's position should be a straight one, with back slightly curved. Surgeon should reduce, as much as possible, the time during which tube is allowed to remain *in situ*. (4) Surgeon must avoid touching during his examination the posterior wall of the larynx, as in doing so he produces a violent coughing as well as a sensation of strangulation.

Indications: (1) Foreign bodies. Case cited by Dr. B. A. Thomas, Philadelphia, shows value of bronchoscopic examination, even if foreign bodies are not extracted. (2) Treatment and locations of strictures of trachea and esophagus. It has been said by one authority that ninety-five per cent. of all esophageal strictures can be successfully dilated through the esophagoscope. (3) Removal of tumors, benign, as for example papillomas, also in some cases those that are malignant.

Dr. G. M. Coates, in discussing: Personally I have had no experience with the Kahler instruments, but have had good results with the Jackson tubes. As to the objection of their becoming covered with blood or mucus, this does not hold good, for the amount of secretion that would obscure the light would also obscure the vision. I admire the new forceps, as the old Jackson handle was very imperfect, and frequently acted badly.

Dr. A. C. Rowland: Dr. O'Reilly's paper and able demonstration of the "scope" suggests a wide and valuable field of usefulness. When the technic of the application of the bronchoscope has been more fully mastered and its introduction becomes a routine procedure, it would be like turning the searchlight into Stygian depths where monsters abound in fancied security, preying upon poor suffering humanity at their own dire will and pleasure. It may not be too fanciful to designate as monsters such pathological conditions as papillomas, malignant neoplasms, abscesses (tuberculous or otherwise), hemorrhages, enlarged bronchial glands (often the inviting cause of much distressing cough), foreign bodies, all more or less jeopardizing the life and health of mankind.

Dr. O'Reilly demontrates to us that by means of direct bronchoscopy we can observe these conditions, remove, destroy or ameliorate their destructiveness. This afternoon I witnessed the extraction of a papilloma by means of the bronchoscope by Dr. O'Reilly. After many and repeated attempts had been made by other means, the spatula was introduced as far as the vocal cords, bringing into view the growth lodged in the posterior commissure. In an easy and leisurely manner without much discomfort to the patient, the growth was removed in portions, allowing the cords to approximate. Safety pins can be removed, hemorrhagic spots can be reached and treated by direct application, and enlarged bronchial glands can be reduced or removed.

Dr. Fielding O. Lewis: I have listened with a great deal of pleasure to the paper just presented by Dr. O'Reilly, as I have been especially interested in the use of the Kahler instrument during the past year. The syringe shown by Dr. O'Reilly for the cocainization of the larynx seems to be a very ingenious instrument, which I have not used. A point as to cocainization, that I think very essential, is thoroughly to cocainize the pharynx, its lateral walls, and the base of the tongue, after which the speculum is easily introduced and the larynx sprayed as Dr. O'Reilly described.

Frederic M. Strouse, Reporter.

WILLS HOSPITAL OPHTHALMIC SOCIETY.

Meeting of November 4, Dr. S. Lewis Ziegler, Chairman.

Bilateral Buphthalmos. Dr. William Zentmayer exhibited a case of bilateral buphthalmos. The patient was a colored boy eleven years of age. Both eyes showed the characteristic changes of this affection. The interesting feature of the case was the absence of increased tension; in one eye it was slightly minus. Notwithstanding this the distention was extreme and deep glaucomatous excavations in the papillæ were discernible through the cloudy corneas. This was the third case of buphthalmos in his service within six months, all in negro children. He thought that the frequency of its occurrence in this race was to be explained by the greater prevalence of syphilis among the negroes, the pathogenesis of the condition being an intrauterine specific inflammation which interfered with the proper development of the eye.

Dr. Risley recalled having seen three cases of buphthalmos, two of which were in colored children, the third, a white girl born of syphilitic parentage. There was in this case, at the time of birth, entire seclusion of the pupil from prenatal iritis. After birth, the eye rapidly developed increased tension and buphthalmos. The eyeball was removed and measured 37 cm. in its anteroposterior diameter.

In one of the colored children Dr. Risley had performed a broad iridectomy upward on both eyes, which relieved the pain. About ten years later he heard through an aunt that the child had maintained sufficient vision to work in the garden, seeing enough to pick peas and to remove the bugs from potato vines.

Dr. Posey said that he was unable to recall whether the few cases of buphthalmos he had seen occurred in white or colored subjects. He had never, however, seen a case of buphthalmos in his private practice. He thought the haze and stretching of the limbal tissues, as demonstrated so clearly in one of Dr. Zentmayer's cases, indicated the probable origin of the affection, *i. e.*, in an inflammation of the mesoblastic tissue of the eye during intrauterine life. Iridectomy was most unsatisfactory in buphthalmos, owing to the extensive and firm adhesions which glued the iris to the cornea. He thought cases of idiopathic buphthalmos extremely rare and cautioned against mistaking instances of pseudobuphthalmos (*i. e.* cases in which the globe was stretched in consequence of some disease originating in the eyes after birth) from the stretching of the globe from causes operating during intrauterine life.

Dr. Crampton inquired if cases going on to rupture had occurred in the experience of the author, and mentioned having seen cases of this sort in the service of the late Dr. George C. Harlan at the Pennsylvania School for the Blind. The sclera and cornea gradually became so distended and attenuated that rupture ensued. This accident was prevented generally in extreme cases by timely enucleation

Tubercle of the Choroid. Dr. William Campbell Posey showed a case of tubercle of the choroid in a woman twenty-one years of age. The tubercle had first appeared some two months previously, taking the form of an intense uveitis. The tuberculous nature of the affection had been suspected by a positive von Pirquet test and was later confirmed by subcutaneous injections of old tuberculin, the reaction being obtained by a dosage of 1/25 mg. Dr. Posey warned against the use of strong solutions of tuberculin, for diagnostic purposes and said his initial dose was invariably 1/500 mg. Under the continuous use of tuberculin vision was improved, the vitreous clearing, a large tubercle being visible at the equator of the globe to the temporal side. The hypodermic use of tuberculin will be persisted in throughout the winter, and Dr. Posey is of the opinion that the patient will ultimately obtain satisfactory vision in the affected eye.

Detachment of the Retina. Dr. Burton Chance presented a case of detachment of the retina of obscure origin. The patient was a lady past fifty, who had been in good health except for a troublesome cough with which she was sometimes seized in violent paroxysms. She came to the hospital first in December, 1911, because of presbyopic symptoms. The fundi at that time were healthy and her sight was good, V.=6/9. She came again last week with the statement that her sight had remained good until the middle of August, when that of the left eye became blurred, yet as the degree of the obscurity varied she had paid but little attention to it. When examined four days ago a large and bulging detachment of the retina was seen involving the upper temporal quadrant and projecting well across the axis, hindering all view of the disk. There was a flat separation in the lower field. The retina was so dark, so smooth, and the vessels' course so straight that Dr. Chance first thought a solid mass had caused the separation. The tension was not increased, however, although the mass was apparently immobile. The eye was not myopic; there had been nothing to suggest a cause except the violent attacks of coughing. The mass seemed to throw no shadow in transillumination: it was too far back to receive the full force of the lamp.

It was difficult to arrive at a clear understanding as to the cause of so great a detachment. The age of the patient, the absence of any history of injury or disease, and the refraction of the eye suggested the possibility of a solid substance being the cause. As a tentative measure potassium iodid was prescribed, and the patient was advised to restrict her motions. To the surprise of all, the mass has become so much reduced that the disk can be seen. The separation at the floor has increased, however, so it is probable the gravity has caused a transfer of the fluid to the lower portions of the globe.

Dr. Posey said that by reason of the localization of the detachment in the upper temporal portion of the retina, on account of the absence of myopia and history of traumatism, and from the age of the patient, the possibility of the detachment being due to sarcoma of the choroid should be taken into careful consideration. While the transillumination test was negative, the presence of a growth should not be excluded from this alone, for if the growth was at all posterior, transillumination of the globe would naturally show nothing.

Dr. Zentmayer did not think that the detachment was secondary to a new growth because of its sudden onset without previous disturbance of vision, because the previous recent examination of the eye revealed it to be healthy and transillumination negative (which was however only negatively important), and because there was a history of repeated severe attacks of coughing. He was opposed to enucleation.

Neutral Soap in Operative Technic. Dr. S. Lewis Ziegler exhibited a neutral liquid soap, especially adapted for use in ophthalmic surgery. It contained but ten per cent. of alcohol, ten per cent. of glycerin, and is made from cottonseed oil, which is a light, bland oil. The soap is a very thorough cleanser, has the advantage of not producing a lather, and because of its lack of alkalinity it is not irritating to the skin and can be used without danger in the conjunctival sac.

Dr. Zentmayer asked Dr. Ziegler whether he had had cultures made from hands which had been washed with neutral soap.

Orbital Disease. Dr. Posey showed two cases of orbital disease in young men. In the first of these he had performed a Krönlein operation for diagnostic purposes and finding the orbit to be filled with a hard growth, apparently sarcomatous in nature, he had removed the eye and eviscerated the contents of the orbit. Microscopic examination of the growth has not as yet been made. This case was of interest because when first seen a diagnosis of orbital celluitis from periostitis had been made and a microscopic examination of a strip of excised tissue gave evidence of a diffuse cellulitis.

In the second case there was marked proptosis with signs of acute orbital cellulitis in a young man who had some months previously undergone Killian's operation for suppurative frontal sinusitis, the recurrence of the orbital cellulitis being due to a recent infection of the ethmoidal and sphenoidal cells. The acute symptoms were subsiding under local and general treatment, but Dr. Posey said that he proposed to open the orbit later for the purpose of removing a layer of dead bone which the x-ray showed to be present in the roof of the orbit.

J. Milton Griscom, Secretary.

COUNTY SOCIETY REPORTS.

Reports should be necessarily brief presentations of scientific facts and professional news. To insure publication these should be received within fifteen days from date of meeting, although it is sometimes necessary to hold over some of them for want of room.

ALLEGHENY—December.

On December 17, the Allegheny County Society held its last meeting of the year. The business session as usual of late was quite animated, and the difference of opinion revolved around the choice of place for the annual meeting in January. The debate was earnest, sober, and at times a trifle heated, but finally amidst a laugh produced by a few clever, cynical remarks the University Club won the day.

The scientific program was introduced by Dr. J. D. Heard, who showed a typical case of acromegaly. The chief clinical signs aside from the deformity of the hands, feet and skull were acne punctata and pigmented skin. The eye grounds showed slight atrophy and some diminution of the visual fields, especially for color, but not typical of pituitary disease as per Cushing. There was a reduced tolerance to carbohydrates, but not markedly. The x-ray plate did not show any evidence of pressure on the sphenoid. This disease is held to be due to increased function of the anterior lobe of the pituitary gland, although in this particular case the decreased carbohydrate tolerance would point to involvement of the posterior lobe also.

The rest of the evening was devoted to a symposium on Hospital and Dispensary Abuse. Sometime since, the president appointed a committee under the chairmanship of Dr. I. J.

Moyer and the evidence of the sincere and splendid work done was attested by the general excellence of the papers presented. The writer of this report laments that the space at his disposal will not admit of an account detailed enough to give the proper credit. It is to be regretted that the symposium could not be finished at this meeting. On account of the lateness of the hour two papers and the general discussion had to be deferred to a subsequent meeting, but sufficient interest has surely been aroused by the temperate views presented, supplemented by much first-hand information, to insure early dispassionate action against the abuses.

The report of the committee was read by Dr. J. K. Everhart. The result of a general investigation of all the hospitals in the county showed that in all except three instances no real effort was taken to prevent the undeserving from obtaining free hospital or dispensary treatment. In only three instances, as mentioned, was there any social service department, and even this was inadequate. The greatest abuse perhaps occurred where special treatment was asked for, and the example cited of a woman whose husband was found to be worth $175,000 was only one among many similar. The hospital abuses affect seriously the general public from the sociological side, the doctor's practice from the scientific side, and the doctor's income from the economic side. The remedy as suggested by the committee consists in the adoption of social service by the hospitals, in the recognition of the extent of the evil by the county society, and in sustained interest in the question as maintained by a permanent committee.

Dr. W. H. Mercur read a paper on "Some Facts Physicians Should Know." After speaking of the extent of hospital and dispensary abuse, he stated that investigation showed the hospital management as distinguished from the staff is largely to blame. There is no relationship, as there should be, between the hospital board and the doctors. And besides, the doctors as a class are weak, because poor and unorganized. A certain amount of blame, however, must be laid at the door of the public. And if we would be frank with ourselves, the medical profession, because of the careless and inefficient treatment given by general practitioners in certain classes of ailments, must assume some of the responsibility. In Dr. Mercur's opinion, the ultimate problem is sociological, and he detailed the method of Dr. Warner of Cleveland in the management of the sociological department of his hospital. Patients applying for admission are classified in four groups; first, the poor who will never be able to pay; second, the needy who might pay and are limited to partial admission; third, those who need special examination for special diseases and perhaps special treatment; fourth, those limited to examination only, and without treatment. This last class is the special class, and the key-note of the system, for these patients are at once referred back to their family physician for further study and the appropriate treatment. To classify patients in this manner Dr. Warner uses a special blank, and experience has shown that if used intelligently ninety per cent. may at once be properly grouped and only ten per cent. require special investigation.

Dr. C. J. Steim, in his paper on "The Relation of the State and General Public to Hospitals and Dispensaries," spoke of the present method of aiding hospitals by means of state appropriations. The amount of money so dispensed has increased greatly throughout the state and of course in Allegheny County, whose institutions, large and small, have received heavy grants. The present practice, by reason of its close affiliation with pure politics, is distasteful and unjust, and as a simple business proposition is essentially wrong. The opinion is growing that some change is necessary, and the remedy lies in organized effort on the part of the profession.

"The Relations of Corporations to Hospitals" was presented by Dr. J. H. Anderson. His paper was largely a discussion of our present liability laws and the proposed changes soon to be made, the purpose being to show what our hospitals can and may expect. The practice of corporations in obtaining, for the injured, service and maintenance in public hospitals at rates below the actual cost was not discussed in detail, except it was shown by inference that by reason of our present unsatisfactory law part of the burden of caring for these unfortunates was thrown upon the general public. Liability claims affect the large and rich corporations with many accidents, and the small and poor trades, and the individual citizen, and to all, whether plaintiff or defendant, the expense is large, the settlement is unsatisfactory, and the litigation is needlessly prolonged. A study of the statistics of the killed and injured in the Pittsburgh district alone shows much misery entailed on the individual and on whole families, and when the low percentage of just settlements is considered, the economic loss to the community eventually is heavy. So the medical profession *per se* is not alone in crying for relief from abuses in this question.

At this point the hour had grown late and two papers were still unread, one by Dr. J. J. Schill on "Unjust Demands upon the Physician by the Public," and the other by Dr. B. A. Booth on "Municipal Charities." As it was desired that the society should discuss the papers fully and place its opinion definitely on record it seemed best to adjourn and finish the symposium at a future meeting.

George J. Wright, Reporter.

BERKS—January.

The meeting of the Berks County Medical Society was held in the new medical building, January 14, a 3 p.m. There were thirty-five members present with the newly elected president, Dr. Ira Shoemaker, in the chair.

In an address on "Indications of Chronic Renal Disease and the Principles of Treatment," Dr. Alfred Stengel spoke of the physiological functions of the kidneys, as some kidney diseases are often characterized by functional rather than anatomical disturbances. Pain in the back as a localized symptom has led the laity to believe that such is due to disease of the kidneys, instead of other causes as it so frequently is. The most important function of the kidney is the elimination of the end products of digestion of the albuminous foods and proteids. The most important end product is urea, uric acid because of its quantity being less important. Other end products are sulphur derivatives excreted in the form of aromatic sulphates. The third excretion is phosphorus in the form of phosphates; the kidneys must eliminate practically all phosphates. Fats and starches are excreted in volatile form through the lungs and skin in the form of water and carbohydrates, while the salt and water are left for the kidneys to excrete. That is why they are so closely related to our daily life and diet. Poisons and microörganisms must be excreted by the kidneys; any irritant irritates at points both of entrance and emergence. The diseases of the kidney are both acute and chronic; there may be only derangement of cells in some cases unattended by inflammation. Chronic congestion results from heart disease and this verges closely on nephritis, and many pass into it.

The first observations made of the urine showed the coagulability of albumin. Bright connected this coagulability with cases of dropsy.

Albuminuria does not always mean nephritis; there is a physiological albuminuria and where it is found in small quantities in perfectly normal conditions it may be due to digestive disturbances. There is an orthostatic albumin due to the individual's standing too much; this appears in evening and disappears in morning. Traces of albumin occur in elderly persons who have arteriosclerosis, due to the condition of the blood vessels and the leaking of the albumin through the tufts and glomeruli. In nephritis we have albuminuria. In acute nephritis the amount of urine is lessened while it is increased in chronic interstitial nephritis. The amount of urine excreted depends upon the amount of food taken. Hyaline casts do not always signify nephritis while tube casts do. The causes of nephritis are exposure to cold, the various infections, to irritative diet and to a low liquid diet, also to excessive use of condiments. Alcohol while undoubtedly a contributing cause has been exaggerated as a factor, while syphilis is a frequent cause of chronic form, also due to arteriosclerosis and senility. Symptoms are albuminuria constant, cardiac hypertrophy, high arterial tension digestive disturbances, tube casts and retinitis. Treatment should be prophylactic. Many cases are preventable by the use of lessened proteid diet, reducing it to from seventy to eighty grams per day, low salt content of diet, some cases of dropsy cured by salt-free diet. As cathartics, sodium salts are preferable to magnesium salts. Diuretics are theoscin, caffein, diuretin.

At the banquet in the evening at the Mansion House there were fifty-four members and guests. Dr. Israel Cleaver was the toastmaster, and the following responded to toasts: Dr. Henry W. Saul, the retiring president; Drs. Ira G. Shoemaker, Theodore H. Weisenburg, James Tyson, Hon. George W. Wagner, Drs. Robert B. Walker, George E. Pfahler, Roy S. Dorsett and B. F. Royer.

Clara S. Keiser, Reporter.

BLAIR—December.

The Blair County Medical Society met in regular session in the parlors of the University Club at 3 p.m., December 24, with President Findley in the chair and fourteen members present. The application of Dr. Charles Lytle Shultz, Juniata, was received.

Dr. Henry J. Sommer addressed the society on "The Care of the Insane by Segregation." The subject was freely discussed and the following resolution was adopted:—

Whereas, There is an increase of insanity and feeblemindedness, as shown by state and federal reports and census (the latter showing an increase of thirty-one per cent. of the insane of the United States in seven years from 1903 to 1910); that it has been found by careful canvass in certain parts of New Jersey that about two per cent. of the population are feebleminded, and this is clearly shown to be the case in Pennsylvania by the superintendent of schools of the city of Altoona, who states that the backward children in the public schools of Altoona now average about two per cent Therefore, be it

Resolved, That the Blair County Medical Society considers that for the future welfare of this community all classes of mental delinquents should be segregated to prevent the propagation of mental delinquents.

On motion of Dr. Brotherlin, the society voted to donate $25 to the University Club in appreciation of the courtesy of this meeting place. Charles W. Delaney, Reporter.

CHESTER—January.

The January meeting of the Chester County Medical Society was held January 14, at the Chester County Hospital, West Chester, and officers were elected for 1913. Dr. Fred West, Kemblesville, and S. A. Rulon, Phoenixville, were proposed for membership. A committee consisting of Drs. Kerr, Richmond and Woodward was appointed to prepare resolutions on the death of Dr. Galen C. Treichler of Honeybrook, one of the oldest members of the society, whose death occurred during November, 1912.

Dr. Scattergood reported that he had succeeded in collecting all dues for 1912. Six meetings were held during the year with increased interest and attendance. He considered the November meeting the best the society had ever held and believed it had accomplished much good. He commended the editors of the *Medical Reporter*.

The treasurer's report was very satisfactory, all the bills having been paid for the year and a neat balance remaining in the treasury. The account was audited and found correct.

Dr. John A. Farrell, in his address as retiring president, thanked the members for the honor they had bestowed upon him, also for the success that attended the meetings. He thanked the members of the various committees for faithful performance of their duties. There has been much harmony during the year, good papers and good work accomplished, with a gain in membership of seven per cent. He considers the *Medical Reporter* the best county paper, and that the reports of the meetings have been excellent. He called attention to legislation needed to make it a misdemeanor for druggists to sell, except by physicians' prescriptions, any of the habit-producing drugs, as cocain, morphin, etc., also Jamaica ginger, of which ninety-five per cent. is alcohol. Another law he advocated is the prevention of the marriage and intermarriage of feeble-minded epileptics.

A committee, consisting of Drs. Jane R. Baker, John A. Farrell and U. G. Gifford, was appointed to take up these measures and try and bring them before the present legislature.

There was some discussion regarding the securing of a permanent home for the society, where a library could be established and medical papers kept. The Chair appointed Drs. Pleasants, Gifford and Farrell a committee to report at the next meeting.

A circular letter from the Directors of Poor in regard to making it compulsory to have a permit from one of their number before admission to insane hospital, also swearing before justice of peace whether the patient is indigent, part pay or private case, was thoroughly discussed and referred to the Committee on Public Policy and Legislation, with power to consult an attorney for the necessary legal advice, this committee to report at next meeting.

D. Edgar Hutchison, Reporter.

DELAWARE—November, December, January.

The meeting of the Delaware County Medical Society was held at the Chester Hospital, November 14, at 3:30 P.M., with Dr. Frederick H. Evans in the chair. The Polyclinic Hospital scholarship, decided by ballot of the members present, was awarded to Dr. Walter E. Egbert who will continue his studies in diseases of the skin.

Dr. M. P. Warmuth, Philadelphia, addressed the members on "Report of Five Cases of Nephrolithiasis with Special Reference to the Symptomatology." (This will appear in the Journal at a later date.)

In the discussion which followed, Dr. Fronfield cited a case of a man who had repeated attacks of renal colic. After the last attack he was induced to have an *x*-ray taken which at that time (some twelve years ago) required an exposure of some twenty minutes. In a few days the patient developed an enormous burn from the rays which resisted all treatment for over four years. The patient never had another attack, never developed any further symptoms relating to the disease and absolutely refused to get in range of an *x*-ray machine for further diagnosis.

Dr. Lehman recalled the case of a patient who had had three attacks and, after the third attack, came into his office and exhibited a stone three eighths of an inch in diameter, which he had passed, causing some sharp pain at the time, but no further symptoms.

Dr. Forwood reported a case of a business man who came to his office, giving a history of sudden anuria, pain in the small of the back and side for over a year. He passed a catheter and withdrew a large amount of urine. He next passed various sized sounds until one of rather large caliber was finally reached; the man had no cicatricial strictural formation whatever. The next morning the patient came into the office and exhibited a renal calculus, the size of a lima bean, which he had passed in the interim.

Dr. Warmuth was tendered a vote of thanks for his interesting paper and he was unanimously elected an honorary member of the society.

At the meeting held at Chester Hospital, December 12, Dr. C. W. Miller spoke on "The Relation of the State Department of Health to the Medical Profession at Large." He described in detail the workings of the state as regards tuberculosis, both in the dispensaries and the sanatoriums. His talk was illustrated by instructive lantern slides. Many inquiries regarding the work were ably answered by Dr. Miller.

Regarding the reporting of births, deaths, various infectious diseases, etc., Dr. Harry Gallagher, Glenolden, remarked that all such cases should be reported direct to the State Department of Health and not to the many and various local registrars, as it is very confusing many times to know or remember the location of same, and, again, it would save the state some twenty-three cents on every case so reported, the actual cost being only a two-cent stamped envelope, where they now pay twenty-five cents for each certificate turned in. Dr. H. M. Hiller said that a hospital for contagious diseases in each county in the state should be the rule. It would also facilitate matters greatly if each county medical inspector's office were the clearing house for all cases reported. Further, since tuberculosis is not a quarantinable disease, these patients of the ambulatory and other severe types roam about at will and are a constant menace to all with whom they come in contact.

The annual meeting of the Delaware County Medical Society was held at Chester Hospital, January 9, at 3:30 P.M. Officers were elected for 1913.

A paper on "Anaphylaxis" was read by Dr. A. Parker Hitchens. Anaphylaxis means the opposite of prophylaxis. Prophylaxis increases resistance while anaphylaxis means without resistance. A better term is allergie, which means a changed reaction. There is not a case on record where a patient has been killed by a second injection of diphtheria antitoxin. In every case, sudden death has followed the injection of the first dose, due to an acquired allergie. Skin rashes are of interest, and joint pains occur after the injection of horse serum in ten to fifteen per cent. of cases. After injection of the first dose of serum, the skin rashes appear in eight to ten days, showing a similarity to the incubation period of infectious diseases. After a second dose of serum, rashes may appear immediately or in three or four days. This accelerated or immediate reaction is an allergic phenomenon. Every particle of resistance of an animal is broken down by the injection of protein substances, such as white of egg, and sudden death will occur if a second injection is made about twelve days later. The theory is that the injection of the first dose of protein causes the production of a certain ferment known as amboceptors. When the second injection of serum or protein is made, the amboceptors immediately attack the whole bulk of injected protein and set free the poisonous substances which are fatal to the animal. In injections of serums for the treatment of diphtheria or tetanus we should be very careful if the patient has asthma. The injection of horse serum should never be used in the treatment of asthma. We need have no fear of harmful results in injections of diphtheria antitoxin, for a dose great enough to cause harmful symptoms is never made.

Walter E. Egbert Reporter.

ERIE—January.

The Erie County Medical Society met in the public library, Erie, January 7, Dr. Guy C. Boughton presiding. Thirty members and two visitors were present and one application for membership was received. Dr. George B. Kalb was nominated to represent Erie County on the

Auxiliary Legislative Committee. Dr. Adella B. Wood's resignation was read and accepted with regret. Dr. Wood, having retired from active practice, was elected an honorary member of the society. Officers for 1913 were elected.

Dr. D. H. Strickland presided while the members listened to the address of Dr. Boughton whose remarks dealt with recent progress in medicine and surgery. In a concise and clear manner he reviewed the following subjects: Workings of the Pure Food and Drugs Act and the good accomplished by Dr. Wiley against great odds; sterilization of the unfit; and medicinal agents, including salts, of arsenic, acetone and radium. He spoke of the work of Noguchi in syphilis; of Wassermann's studies in the treatment of cancer; of the kidney function test of Rowntree and Geraghty; and of the excellent work of Dr. Alexis Carrel in blood-vessel surgery, transplantation of organs and the preservation and growth of tissues outside the body. Mention was also made of the more recent method of treatment of glaucoma; of the advance in surgery of bones by Dr. John B. Murphy and Mr. Love; of the use and value of lumbar puncture; and of Dr. Crile's method of combating shock.

Dr. Boughton called attention to the work of the Municipal Hospital of Erie during the past year, stating that in 1912 there were 141 cases of communicable diseases treated, an increase of 55 over the preceding year. By statistics he proved the amount appropriated and facilities necessary for the proper handling of these cases inadequate, and suggested that the society recommend the pavilion plan. Reviewing the work of the society, Dr. Boughton stated that in 1912, the society had met eleven times, the Executive Committee, five times; that the society had entertained, as guests, four physicians, and that there had been the reporting of cases and papers by twelve members of the society.

Following the address, by action of the society, the secretary was instructed to extend to the mayor and council of Erie the recommendation as suggested by the retiring president.

HARRISON A. DUNN, Reporter.

FRANKLIN—JANUARY.

The annual meeting of the Medical Society of Franklin County was held at Chambersburg, January 21, at 5 P.M., President Emmert presiding. The secretary and treasurer made their annual reports. Officers were elected. Dr. John J. Coffman proposed amendments to the constitution, changing the annual dues from three dollars to four dollars per year. This will come up for ratification at the March or May meeting.

Retiring President Emmert delivered the annual address, taking for his subject "Purulent Middle-Ear Disease." He discussed its pathological and clinical features and made some suggestions regarding methods of treatment. The subject was generally discussed by other members. The dangers of some forms of douching were spoken of, also douches of the nose as frequently a dangerous procedure respecting the ear. The use of urotropin was advocated in these purulent conditions, to be given to the fullest quantity that may be tolerated by the patient. In this way much benefit may be secured.

Dr. W. C. Schultz, the newly elected president, thanked the society for the honor conferred.

At 8 o'clock twenty-two members assembled in the Club Dining Room and were served with an elaborate dinner.

Dr. Schultz, in a brief address, described the physician, his work and duty. Dr. John C. Gilland, the oldest member present, spoke of the old school in medicine; of the great Gross, his surgery, and of his article on "Inflammation." He spoke of the young and rising physician with his laboratory methods and of the new forms of vaccine and serum treatment; of these new measures that are not complete, he cautioned a careful watchfulness, while studying and perfecting the new methods, to keep firm hold of old alchemy and therapy which has in the past proven so helpful to the profession in its work.

JOHN J. COFFMAN, Reporter.

LACKAWANNA—JANUARY 14, 18 AND 28.

At the regular monthly meeting of the Lackawanna County Medical Society, held January 14, in the society rooms at Scranton, the annual election of officers and business for the year was transacted. An amendment to the by-laws was passed, consolidating the office of secretary and treasurer, providing for a bond for the same, and creating a new office of corresponding secretary and reporter. The annual reports of the various committees showed the society to be in a healthy state of progress.

The treasurer reported that $1679.43 had been collected during the year; the annual expenses were $1599.43, leaving a balance of $80 on hand.

The Membership Committee reported the addition of 14 new members during the year, making a total of 188.

The report of the librarian, Dr. J. M. Wainwright, covered the work accomplished by his office during the year. Many new volumes have been purchased; a number of members have donated old or used volumes; and upwards of $200 have been spent for periodicals. In view of the fact that our library is so rapidly increasing in size, and in order to keep pace with our needs, Dr. Wainwright recommended that the services of a competent attendant be procured for the coming year, that the books might be properly cared for, the journals filed, and the whole carefully indexed.

After installing the newly elected officers in their respective stations, the retiring president, Dr. William Rowland Davies, who had served the society in an official capacity for the past five years, gave a most fitting valedictory address, thanking the society for the interest manifested during his four years as secretary, and particularly during the past year while acting as president. At the close of his address many of the members expressed themselves in no uncertain tones of friendliness and good fellowship toward Dr. Davies, and his earnest and faithful services rendered Lackawanna County Medical Society.

Dr. Harvey W. Wiley, late of the Department of Agriculture, visited Scranton, January 18, and delivered a lecture to a large and appreciative audience in the Y. M. C. A. Auditorium, on the "Conservation of Man."

After the lecture the members of the Lackawanna County Medical Society tendered Dr. Wiley a complimentary dinner at Hotel Casey. Sixty-eight, including twelve members of Luzerne County Medical Society, attended the dinner. Dr. Davies, retiring president, was the toastmaster, and Dr. J. B. Corser, president-elect, chairman of the evening.

After the dinner Dr. Wiley gave a talk in which he besought the members of the profession to ally themselves more closely with their respective county, state and national associations, and join the great progressive movement for the conservation of humanity.

Other after-dinner speakers were Dr. Lewis H. Taylor of Wilkes-Barre, president of the state society, and Dr. D. A. Capwell of Scranton.

At the meeting, January 28, Dr. Elias G. Roos presented a case of carcinoma occurring in the breast of a male upon whom he had recently operated, doing an extensive dissection of the glandular structures and musculature of the right axilla, with recovery and restoration of function of the arm.

Dr. D. W. Evans read a paper on "Operations and Their End Results," reporting twenty operative cases covering a period of ten years and presenting many points of interest. This paper showed a careful and systematic recording of the material at hand, much of it brought up to the present date. A few of the more interesting cases follow:—

Case 4. Male, aged seventy-three, ditch digger, with a negative family history, had strangulated right inguinal hernia of ten hours' duration, which was not reducible by taxis. Operation: Patient hastily prepared, ether anesthesia, canal well opened, sack and contents reduced. Although intestine had the appearance of being gangrenous for about five inches, still it was deemed advisable not to resect because of serious condition of patient. Although I did not do a classical herniotomy in this case six weeks after the operation patient, with a perfectly retained hernia, was again ditch digging.

Case 14. Male, aged twenty-one, teamster, gave a negative family history. Present history: Gastric disorder extending over a period of three years, one or two months at a time, but never free from distress about the region of the epigastrium; occasional vomiting; no hemorrhage per vomitus or per feces; constipated and a feeling of general malaise most of the time. Diagnosis: Although several diagnoses had been made in this case, that of gastric ulcer was suspected and an exploratory incision advised. Operation confirmed the diagnosis, a perforating ulcer, 2 cm. in diameter, located on the lesser curvature of the stomach near the duodenum, was found; the edges were clear cut and well defined. A row of Lambert sutures, followed by a second and part of a third row of infolding sutures, closed the opening completely. Recovery was rapid; a cessation of all pain and distress ensued; the patient gained rapidly in weight and at the present time shows no further indications of trouble.

The discussion of the cases presented was opened by Dr. J. Norman White who gave a brief résumé of his experience with cases of a similar character.

Harry W. Albertson, Reporter.

LANCASTER—January.

The regular monthly meeting of the Lancaster City and County Medical Society was held January 8, with President Rohrer and thirty members present. Officers for the ensuing year were elected.

A paper on "Anaphylaxis" was read by Dr. W. H. Herr. The vasomotor disturbances and hemolytic changes resulting in the symptom complex known as anaphylaxis can be produced experimentally. It has been found that this phenomenon is more frequently seen when a serum is interrupted and then restarted than when given regularly over a stated period.

The urticaria, temperature and irritation of the mucous membranes which constitute the condition are found not only as a result of serum therapy, but are also due to diseases such as influenza, rheumatism and septic infection. "Colds" vary in severity, and get worse on repetition within a short interval of time. At first we have only a slight coryza, with subnormal temperature in the morning and rather higher at night; a reinfection presents a deeper or heavier "cold" and we sometimes see a severe "cold" with a decided urticaria. This is caused by an absorption of the antigens or toxins through the buccal, nasal or intestinal tracts. One case of colitis presented a severe urticaria endangering the life of the patient. Another neurasthenic patient developed urticaria with a subnormal morning temperature. The initial "cold" causes a breaking down of the immunity of the body to "cold." With lessened immunity, the slightest change of environment will cause a reinfection; each reinfection is more severe, and in this respect resembles antigens or toxins experimentally injected. To overcome this condition in "colds," we should strive to make the environment proper, thus lessening the danger of reinfection. To do this keep the patient in bed until the morning and evening temperatures are normal and treatment should be directed to elimination of toxins. A general discussion followed.

Dr. H. C. Kinzer reported a case of laryngeal diphtheria, in which intubation had been performed. The interesting feature was that three cultures taken at different times were negative while the fourth, taken from membrane which came out upon the withdrawal of the tube, was positive.

Dr. T. B. Appel reported a case of frank lobar pneumonia in which the patient was treated with antipneumococcic serum Two hours after the first injection the temperature was reduced from 104° to 99°, the dyspnea was lessened and the patient was decidedly better. Six doses were used and the patient made an uneventful recovery.

Dr. C. P. Stahr reported a case of lobar pneumonia in which the patient had received four injections of antipneumococcic serum. The toxic condition cleared up after the first injection, temperature dropped to normal and respiration became easier. This patient had two attacks of urticaria but had no cough or expectoration at resolution.

Dr. F. G. Hartman reported a case in which the patient with lobar pneumonia received twelve injections and the crisis came at the end of fifty hours.

Dr. W. H. Herr stated that he had uniformly good results with antipneumococcic serum. In his opinion it fails because it is used too late in the disease.

On motion a committee of five was appointed to confer with Health Commissioner Dixon with the idea of having the state furnish gratis to indigent patients, antitetanic and antipneumococcic serum.

WALTER D. BLANKENSHIP, Reporter.

LEBANON—JANUARY.

The January meeting of the Lebanon County Medical Society was held in the courthouse at Lebanon. In his address as retiring president, Dr. S. P. Heilman compared the medicine and surgery of the thirteenth and fourteenth centuries with that of to-day. He believes that there is really nothing new in the practices, but that they are the revivals of the past and theories of centuries ago. He touched upon the subjects of anesthesia, serotherapy, sepsis and antisepsis, chemistry and hospitals. He stated that all of the important features in medicine and surgery of to-day were accomplished by the practitioners of those early days.

GEORGE R. PRETZ, Reporter.

MIFFLIN—JANUARY.

The annual meeting and banquet of the Mifflin County Medical Society was held in Lewistown at the Crystal Café, January 2, at 11 A.M., with seventeen members present and two guests, Dr. I. O. Mahr of Newton Hamilton and Frank Kohler of Reedsville, a first-year medical student at Jefferson Medical College; the doctor's wives were guests also, both at the meeting and the banquet.

The committee appointed to investigate the suggestions of the state society for a change in the by-laws affecting the payment of dues, etc., reported adversely, and their report was accepted by the society.

The treasurer's report showed a small balance in the treasury. Dr. Clarkson read the secretary's report.

The retiring president's address claimed the closest attention of his hearers. Dr. Getter gave the percentage of attendance of all the members for the year, ranging from zero up to 90 plus. He emphasized the importance of active membership in the county society by quoting at length from Dr. McCormack. Dr. Getter said that medicine has reached a new era in the prevention and cure of disease; it has undergone a revolution in the past generation, including the development of the theory of immunity, bacterial vaccine and the internal secretions.

Dr. C. H. Brisbin was then inaugurated as president of the society. He said the motto of his administration would be "Walk in without knocking, go out the same way."

The members and their wives with other invited friends enjoyed a turkey dinner, after which Toastmaster Rupp called upon Dr. R. T. Barnett to respond to the first toast, "Modern Medical Superstitions." This mental feast continued with the following: "A Medical Practice, Its Funny Side," by Dr. B. R. Kohler; "A Medical Practice, Its Serious Side," by Dr. A. S. Harshberger; "A Medical Man's Hobby," by Dr. J. P. Getter; "Heroic Treatments," by Dr. S. J. Boyer; "A Doctor's Wife's Husband," by Mrs. C. H. Brisbin.

F. A. Rupp, Reporter.

PHILADELPHIA—December.

The meeting of the Philadelphia County Medical Society was held in Thomson Hall, College of Physicians Building, Philadelphia, December 11, at 8:30 p.m., President Hammond in the Chair.

In a symposium on "Blood," Dr. Harry A. Duncan read a paper on "Normal Blood, Constituents and Methods of Examination, Including Hemoglobin, Red and White Corpuscles, Differential Count, Etc." It is important to have a good working knowledge of the methods of examination of this most important tissue of the body. The blood carries many extractives, as urea, uric acid, creatin, creatinin, xanthin, hypoxanthin, cholesterin, sugars, fats, soaps and enzymes. Besides these there are innumerable bodies for the protection of the body. The total amount of blood contains about 14 gms. of hemoglobin to 100 c. c. of blood. Of the methods of determining the hemoglobin the Fleischl-Miescher instrument is the best. Its disadvantages are the high cost and the need of a dark room. The Dare instrument is handy and accurate. The Tallquist is handy and cheap and should be used by everyone who does not care to provide a more expensive instrument. The counting of cells requires long practice and most careful manipulation. In the differential count I would recommend to the general practitioner Leischmann's stain as the simplest with most excellent results.

"Pathology of the Red Blood Corpuscle: Anemias, Primary and Secondary, Neoplastic, Hemolytic, Etc.," was presented by Dr. A. G. Ellis. In this consideration of the pathology of the red blood cell the endeavor is made to make prominent the points of practical value in diagnosis and treatment rather than to give a complete discussion of the subject. Changes in number are easily detected by a simple count. Decrease in number is a pathological condition of the red cell present in every anemia. Recovery rarely occurs after reduction to 500,000. Noteworthy increase in size (the presence of megalocytes) occurs only in pernicious anemia. Of the three types of change in staining reaction, the first is increased paleness of the central portion due to diminution in hemoglobin. The second is abnormal coloration of the entire cell, polychromasia, the third is the presence of basic staining granules in an otherwise normally stained cell. Recent studies indicate that the second and third types are young, unripe cells entering the blood too early because of changed conditions in the bone marrow. The third, basophilic granulation, reaches diagnostic importance only in chronic lead poisoning and even here it may show daily fluctuation. Chlorosis is not to be diagnosed from the blood alone. The low color index (or ratio between red cells and hemoglobin) is the most characteristic point in the blood picture of chlorosis.

Secondary anemias form a great group of cases in which the blood changes are dependent upon, and secondary to, lesions other than in the blood forming organs; they include cases in which the circulating red cells are acted upon directly by some noxious agent, as in malaria and other hemolytic anemias. In these cases the anemia is a symptom, instead of a disease as in the primary form. With the exception of those cases due to parasites, therefore, examination of the blood does not furnish a diagnosis of the disease causing the anemia. This is true even in cases of suspected malignant tumors where a diagnosis would be of the greatest possible value. The blood picture does aid at times in differential diagnosis, but largely by the condition of the leukocytes. Examination of the blood is absolutely diagnostic of one primary anemia, progressive pernicious anemia. It is confirmatory and necessary in the diagnosis of a second, chlorosis. It is diagnostic of polycythemia. Except in parasitic affections it is not diagnostic of the disease causing a secondary anemia but it is of decided value in determining the condition of the patient who has the anemia.

"Purpura Hemophilia, Coagulation, Plasma Studies, Etc.," was presented by Dr. Joseph McFarland. Hemophilia is a disease. Its fundamental error seems to be found in inhibition of the coagulation of the blood and a study of the blood made by Wright, shows that the coagulation time is greatly prolonged. A careful analysis of the factors concerned shows that the usual factors of coagulation are all present in the blood of the hemophiliac, but that the thromboplastin is deficient both in the cells of the blood and in the cells of the tissues. The problem of checking hemorrhage in hemophilia is one of supplying the thromboplastin. This is best accomplished: (1) By applying blood serum to the bleeding area; (2) by applying tissue extracts to the bleeding area; (3) by crushing manipulations by which the injured cells will be found to yield thromboplastin. These measures and the success following their employment are exemplified by reports of various authors.

Purpura is a symptom. It is always secondary to infections and toxic conditions. In order that the hemorrhages occur, it is necessary that the bacteria produce some substance whose chief quality is to act as an endotheliolysin. The venom of the rattlesnake is particularly rich in endotheliolysin as has been pointed out by Flexner. Any organic or inorganic substance, capable of acting in a similar manner, is capable of producing purpuric spots; and of the inorganic substances, mercury and the iodids are known to do so when given in excess, and lead when given experimentally. Of the organic substances known to do so, copaiba, quinin, belladonna and ergot may be mentioned. There are probably numerous bacteria that have endotheliolytic powers under certain circumstances not perfectly known. Of these streptococci, staphylococci and pneumococci, the hog-cholera and other hemorrhagic septicemia organisms must be mentioned. In cases of infection a different mechanism may also require mention, viz., the occurrence of minute thrombi and of infarctions. From these lesions, the hemoglobin rapidly liberated from the corpuscles may stain the tissues. The most recent experimental research upon purpura seems to be that of E. Marshall Cowell. It would seem as though Cowell had been unfortunate in the selection of his microorganisms, which are not those known to be most frequently associated with purpura, and equally unfortunate in repeating the conditions under which purpura is known to occur. Exactly what the necessary conditions are it is difficult to say, but it is not unlikely that they have to do with the agglutination or aggregation and local colonization of the bacteria in greater numbers than occur in the introduction of killed cultures or in ordinary fatal septicemia. Cowell concludes that, unfortunately, as regards the production of experimental purpura, his results have been negative. It appears that the oft-quoted positive experiments must, at any rate, not be accepted at present.

"Blood Serum, Pathology and Reactions" was presented by Dr. E. P. Corson White: Serum reactions have developed along with the experimental studies in immunity. Many are of tremendous scientific importance; others of suggestive clinical value but still in an experimental stage, while some have undoubted diagnostic importance.

These are: (1) The agglutinin reaction, used especially in diagnosis of typhoid, a and b paratyphoid, and is of practical use in differentiating many species of bacteria. (2) Precipitin reaction, primarily useful in identification of proteids and in the forensic test to determine specificity of blood spots. (3) Opsonic index, a method of measuring the resistance of a patient. (4) Complement fixation test, of tremendous value in diagnosis of lues and as a guide to its treatment. Diagnostic also for gonococcus, tuberculosis, typhoid, etc. Aside from these tests of proved value, there were described the most promising test for cancer, the complement fixation similar to the Wassermann reaction, the Freud Kaminar reaction, Epiphanin and Neisogtagmin reaction, none of which seem specific enough to be of much aid, and lastly, the antitryptic reaction which, suggested for diagnosis of cancer, is probably only a cachetic reaction.

"Treatment of Leukemia" was presented by Dr. H. K. Pancoast. It may be conservatively stated that no absolute proof exists that a case of leukemia has ever been permanently cured by radiation or any other form of treatment. In the light of our present knowledge upon the subject the best we can do is to give the patient the greatest possible prolongation of life in comparatively good general health. Radiation has accomplished more than other methods of treatment but the *x*-ray is not indicated in every case. It is contraindicated in acute lymphatic leukemia. Based upon the belief that the primary seat of the disease is in the bone marrow and that the process of cell proliferation therein is akin to the growth of certain of the neoplasms, we have treated all of our cases for several years along such lines that the exposures have been directed primarily to the bones, leaving the radiation of the secondary enlargements to a later period.

We have found the following among the essential factors in successful treatment: Systematic radiation of all the bones except the skull; exactness in dosage; daily applications if possible; persistence in treatment until every manifestation disappears if this be possible; the observance of every possible precaution against a dermatitis (the length of the patient's life may depend upon the condition of the skin); the avoidance of toxic manifestations; exposure of the spleen and other enlargements at a safe period; a close watch over the patient if treatment is stopped because of a disappearance of all manifestations of the disease, and an immediate resumption of treatment on the reappearance of the first manifestation in the differential count; the judicious use of arsenic which should never be used in large doses during radiation.

The special advantages of this method over the older one are: (1) The expectation of life is greater; (2) strength and capacity for work are regained at a comparatively early period and maintained with a fair degree of comfort to within a short time of death; (3) there is less danger from toxemia and less risk of dermatitis.

"Treatment of Anemias" was presented by Dr. Thomas McCrae. Early diagnosis and the institution of prompt treatment are important factors in the management of pernicious anemia. Absolute rest is the first essential in treatment. Almost to a man, however, these patients object to being at rest. As much good food as possible should be taken with the proper regard for the condition of the digestion. Of drugs, only one is of value, arsenic in some form. There are some encouraging results reported of salvarsan. Of a number of comparatively new methods of treatment, one is the use of blood serum. The results are most disappointing. The method is not adapted to the general practitioner but to the men working especially upon the blood problems. I think we can not yet pass final judgment upon blood transfusion in pernicious anemia. My own feeling, however, is that its employment is not justified. I am confident that there are unfortunate results which have never been reported. There are odd instances of good results but more of unfortunate results. In the after care it is well to see the patients as a rule once a month.

In the treatment of acute severe secondary anemia which follows particularly hemorrhage the surgeons have rendered valuable assistance. Here transfusion is of much aid. Many of the other measures are apt to be harmful because the patient has a low blood pressure. Up to a certain point the low blood pressure is a saving factor. Drugs that raise the blood pressure are better left out. Unless the patient is in collapse it is better to leave things more to nature than often we are inclined to do. In the treatment of the chlorosis in the secondary anemias rest in bed is of first importance. Great attention should be paid to the bowels. Iron is the drug indicated. I have a very strong belief in the value of the inorganic preparations, giving twenty to thirty grains a day of the Blaud mass. Arsenic is of advantage, but especially valuable is the iron. Then too after the blood has become normal the patient should be kept on iron. In splenic anemia the surgeons have shown us that extirpation of the spleen is the only treatment of value if the diagnosis is made sufficiently early and the patient's condition warrants removal. The one thing I would emphasize in the whole question of the treatment is the value of rest in bed, out of doors if possible, lots of good food, with the indicated drug. Whatever else you do bear in mind the importance of absolute rest.

H. C. Carpenter, Reporter.

TIOGA—January.

The regular monthly meeting of the Tioga County Medical Society was held in Wellsboro, January 24, with nine members responding. Officers were elected for 1913. Dr. W. A. DeWitt read a most interesting paper on "Tuberculosis," showing his advanced thought along this line. Dr. W. H. Hobbs gave an impromptu talk on "Postoperative Pyelitis Caused by Colon Bacilli." Matta Berry Longwell, Reporter.

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ORIGINAL ARTICLES.

THE PITUITARY BODY IN DISEASE; THE METHOD AND THE RESULTS OF SURGICAL INTERVENTION.

BY CHARLES H. FRAZIER, M.D.,
Philadelphia.

(Read at the General Meeting of the Medical Society of the State of Pennsylvania, Scranton Session, September 24, 1912.)

Of the many complex problems which the human mechanism presents to the anatomist, physiochemist and surgeon, certainly none has received greater attention during the past decade than the various phases of disorders of the pituitary body. The hypophysis, situated as it is deep in the sella turcica and hemmed in by such important structures as the cavernous sinus, the optic tracts and chiasm, and the internal carotid artery, has evaded for a long time the hand of the investigator, but recent research has done much to clear up early false impressions and to pave the way for the surgery of this once very obscure organ, just as it did at an earlier date in the case of the thyroid gland. The hypophysis has been recognized as a distinct gland since earliest times, but the ancients had very erroneous ideas regarding its function, the most popular of which was that it supplied a mucous secretion to the membrane of the nose, and this theory shortly gave way to the belief that it was an organ of no real importance. However, over a hundred years ago, Wenzel, the celebrated anatomist of Mentz, said, "The appendix of the brain seems to play a more important rôle in the human body than one would suppose." The gland was not known under its present nomenclature until 1778, when Soemmering first used the term hypophysis cerebri, but we find that Vesalius mentions it in 1553 as the glans pituitaria excipiens (*de corporis humani fabrica*, 1553).

The hypophysis consists of three distinct parts: The pars anterior or anterior lobe, the larger of the lobes which has been proved to be derived from the mouth cavity; the pars posterior or posterior lobe, derived from the interbrain; and the pars intermedia, connecting the posterior lobe to the infundibulum. While recent morphological investigators have demonstrated that the gland is constant in all craniates and functionally active,[1] there has been and still is great difference of opinion as to whether the function of the gland is essential to life. Some, among whom are Roth, Wiedersheim, Corning, Strumpell, and others, have claimed that the pituitary is merely a rudimentary organ, while still other investigators (Schiff, Marinesco, Wolf, Gemelli) have come to the conclusion that viability is impossible when the gland ceases to functionate.

In spite of the present lack of unanimity as to its vital importance, experimental researches and clinical observations have proved conclusively that the hypophysis is a gland of great significance and that many serious disorders may be traced directly to either an actual neoplasm or a nonneoplastic enlargement of the pituitary body. Of late, surgery has done much to corroborate these views. The possibility that disorders of this gland might be amenable to surgical intervention was first conceived in 1886, when Pierre Marie[2] gave a new impetus to investigations in this field by suggesting an etiologic relation between acromegaly and an abnormal condition of the hypophysis. During the little more than half a decade elapsing since the advent of this particular phase of cranial surgery, the results have been sufficiently gratifying to demonstrate the ability of surgery to cope with these, for the present at least, otherwise incurable conditions.

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[1] Frederick Tilney. Contribution to the Study of the Hypophysis Cerebri with Especial Reference to Its Comparative Histology, 1911.

However, if the services of the surgeon are to be of any benefit to the subject of perverted hypophysial function, it is essential that the general·physician, the ophthalmologist, and the neurologist, recognize the symptoms early. Pituitary disorders may be classified in three general groups: The first two, caused by hyper- and hyposecretion of the gland respectively, take the form of acromegaly and dystrophia adiposo-genitalis; the third type may be seen in combination with one or the other of these—a type in which the symptoms are the expression of pressure upon adjacent structures or of increased intracranial pressure.

Group I. Though the exact relation between acromegaly and the hypophysis is still somewhat of a bone of contention, nevertheless the diagnosis should be attended with little difficulty. The following case, one of three which I have seen, will suffice to illustrate the first or hyperpituitary group.

The patient, a young man of twenty-three, was about fifteen years of age, when he began to have painful sensations and slight chilliness all over the body, and the fingers became numb and painful. Ever since the onset of the disease, the bones of the face, hands, feet, and sternum have been constantly increasing in size with great lack of symmetry, until when admitted to the hospital he was wearing a number seventeen shoe. There was a tendency to hypertrichosis; the muscles were flabby; and the head was long, narrow and asymmetrical. The inferior maxilla was extremely heavy and protruding, and the cartilages of the nose, ears and eyelids were enlarged, giving a very coarse aspect to the features. There was such marked dorsal kyphosis that the patient bent almost double and thrust his head forward when walking.

While it is still claimed by some that acromegaly does occur without pituitary trouble, most of the collected evidence points to the fact that it is caused by a hypersecretion of the hypophysis, probably of the anterior lobe, and that the pituitary is affected in all cases.

Group II. Possibly not quite as familiar, but none the less common is the second group, caused presumably by hypopituitarism, taking the form of skeletal undergrowth, adiposity and sexual infantilism, associated sometimes with a smooth, transparent skin, high sugar tolerance, slowed pulse, subnormal temperature, asthenia, and stupor. To this class belonged a case, which I operated upon a little over a month ago.

The patient, a young man of twenty-three, had been a normal child up to the age of fourteen, when he was struck with a rock over the right temporal region. Two years later, he grew perceptibly weaker, his weight began constantly to increase, and he was gradually losing the sight of his right eye. When he first came under my observation in July, 1912, his appearance was that of a thickset boy of fifteen or sixteen with very marked panniculus adiposus. The genitalia, infantile in type, suggested a child of ten or twelve. He had an enormous appetite and was suffering from severe headaches and occasional nausea. The ocular disturbances had advanced to a state of complete right temporal hemianopsia. Aside from these marked glandular symptoms, the x-ray findings were very suggestive of pituitary trouble. The operation revealed a large pituitary cyst which was evacuated.

In this group it is also not at all rare to find, along with the above symptoms, a condition of polyuria and diabetes insipidus, attributed, as pointed out by Schäfer and

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[2] *Rev. de Med.*, 1886, vi., 297.

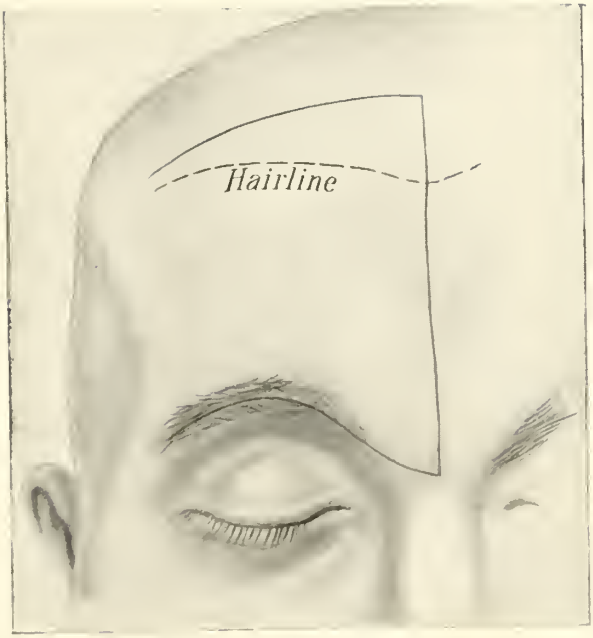

FIGURE 1. Drawing showing the relation of the incision to the eyebrow and the hair line.

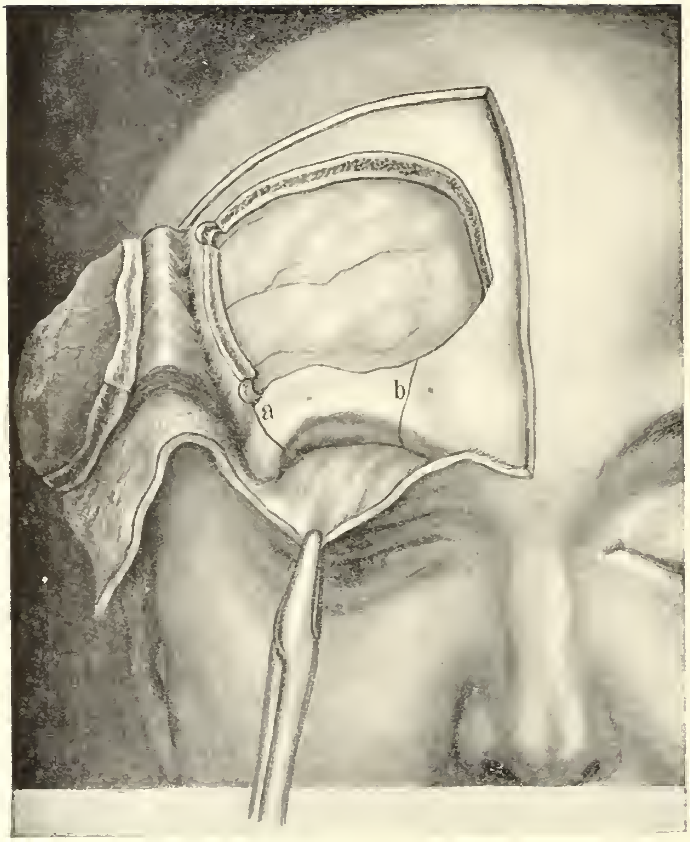

FIGURE 2. Showing the reflection of the osteoplastic flap and between lines (a) and (b) the portions of the supra-orbital ridge to be resected.

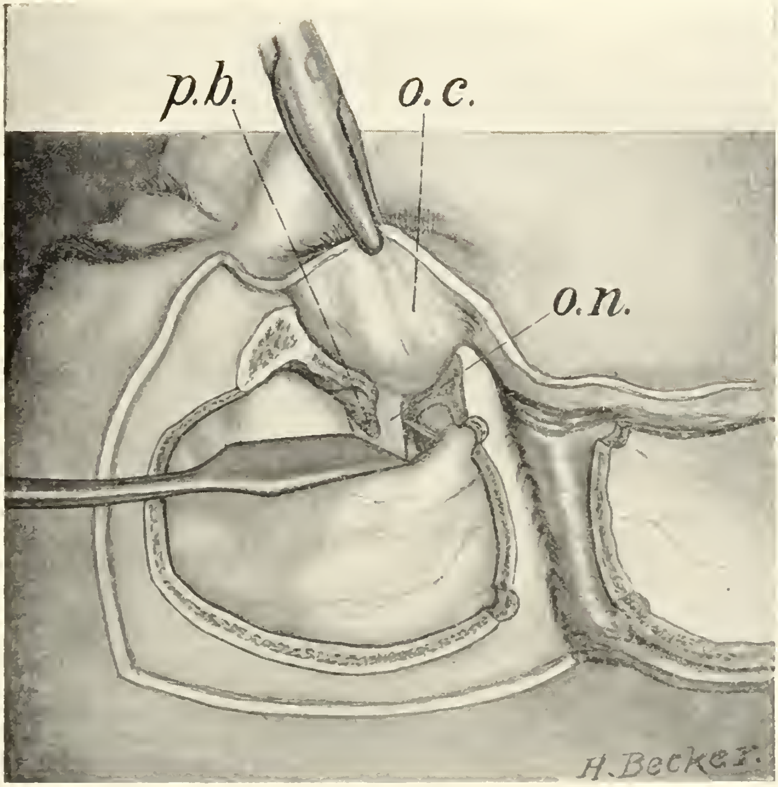

FIGURE 3. With the head in the Rose position, after the supra-orbital ridge and what remains of the roof of the orbit have been removed, the frontal lobe is elevated with a retractor and the orbital contents are displaced downwards, exposing the optic nerve and immediately to the left of it, the pituitary body; o. c., orbital contents; p. b., pituitary body; o. n., optic nerve.

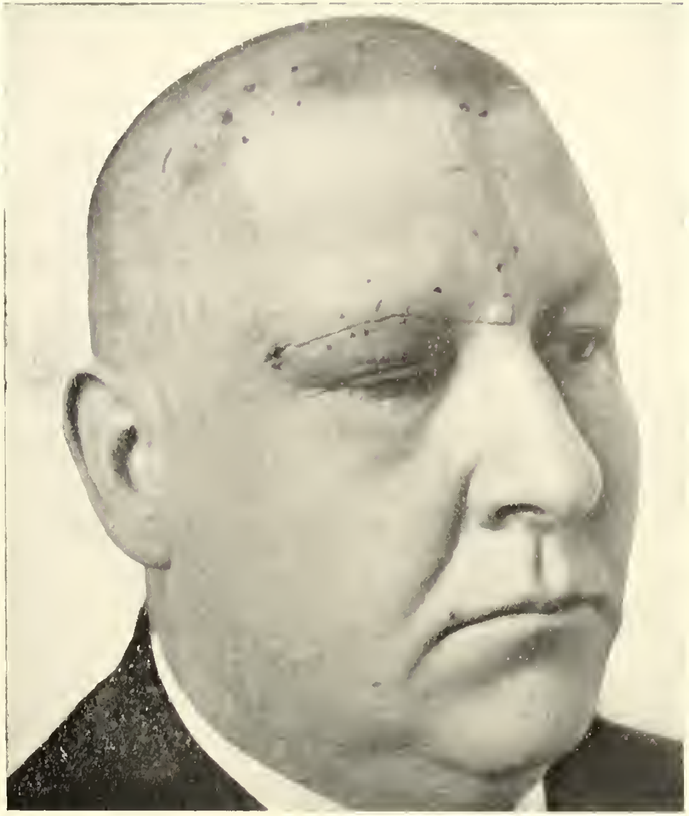

FIGURE 4. Photograph of patient taken two weeks after operation by the author's trans-frontal method of approaching the sella turcica.

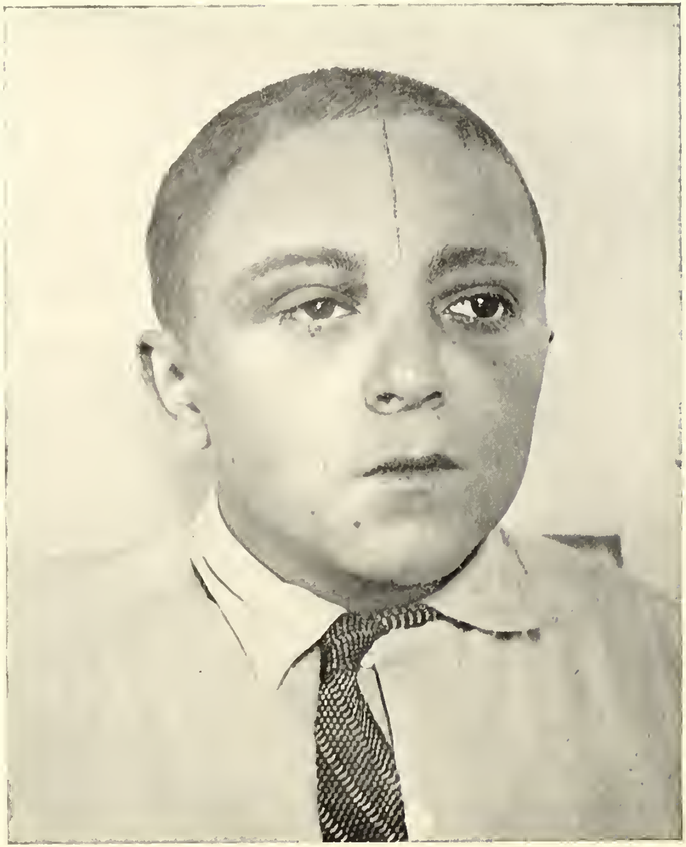

FIGURE 5. Taken from a photograph of a patient shortly after the author's trans-frontal operation to show the concealment of the incision. The hair on the eyebrow and scalp was inserted by the artist.

others, to a glandular insufficiency of the posterior lobe. Indeed, the latest experiments and observations have proved that the whole symptom-complex of this second group may be ascribed to a disturbance of the posterior lobe, the secretion of which contains a hormone so essential to carbohydrate metabolism.

Group III. Both acromegaly and dystrophia adiposo-genitalis are frequently accompanied by symptoms which owe their origin to involvement by pressure of adjacent structures and in some instances these so-called neighborhood symptoms are the only expression of a diseased gland. To this class belonged a case referred to me by Dr. Mills and Dr. Weisenburg.

The patient, who was in his forty-fourth year, had suffered from severe headaches, nausea, and dizziness for over two years, and during this time had had convulsive seizures on the average of once or twice a month. There was a marked change in his disposition; his mental processes became slow, and his memory, defective. There were ocular disturbances, symptoms suggesting encroachment upon the uncinate region and enlargement of the sella turcica.

The most constant of the extrapituitary symptoms are those which result from injury to the optic tracts and chiasm, causing failure of vision in the temporal fields or bilateral temporal hemianopsia, and later gradual atrophy of one or both optic nerves. In seventy-two cases of hypophysial tumor without acromegaly, collected by Frankl-Hochwart,[3] vision was found to be normal in only three instances. Among early and suggestive ocular symptoms, de Schweinitz[4] considers amblyopia, central and paracentral scotomata, and achromatopsia. Cases with choked disk and optic neuritis have also been reported, and external ocular muscle palsy is by no means rare. Exophthalmos, caused by stasis of the cavernous sinus is present to a greater or less degree in most instances. These ocular symptoms are of the greatest importance in suspected cases of pituitary trouble, as they grow continually worse until patients become completely amaurotic if operation is delayed too long.

However, as shown by the history of my own case just referred to, other general symptoms in the form of violent headache, usually bitemporal in character, nausea, and dizziness usually manifest themselves before the visual disturbances become extreme. Ever since Wenzel,[5] in 1811, in examining the brains of twenty epileptics discovered that the hypophysis was diseased in ten instances, the close connection between the nervous system and the pituitary has been a matter of common knowledge. Indeed, disorders of this gland are accompanied with all degrees of psychic disturbances from mere listlessness and somnolence to various stages of dementia and even well-defined insanity.[6] In two thirds of the cases, quoted by Frankl-Hochwart, psychic disturbances were prominent, and epilepsy itself was present in one sixth. Among the less common expressions of derangement of this gland is hydrorrhea nasalis[7] and disturbances in hearing, taste, and smell, caused by pressure on the respective nerves, and as in Cushing's two cases, trifacial neuralgia.

Ever since Oppenheim in 1899 discovered that enlargements of the sella turcica could be reproduced by the *x*-ray and correlated with an increase in size in the gland itself, the radiograph has held a place of vast importance in the diagnosis of disorders in the uncinate region, and should be resorted to in all cases of suspected pituitary disease.

Though various therapeutic measures, such as *x*-rays and glandular feeding, have been employed for the relief of the conditions just described, the benefit derived is usually only transitory, and until our knowledge of organotherapy is capable of wider application, the only means of alleviation at the present time rests with the cruder methods of surgery. Like all other intricate procedures, the operation for exposure of the hypophysis is passing through various stages of evolution, becoming constantly less complex and at the same time less mutilating. The first successful attack upon the hypophysis is credited to Horsley, who approached the hypophysis through the middle cranial fossa. In 1905, Krause[8] suggested an approach through the anterior cranial fossa, but Borchard,[9] in an attempt to carry out this method, was forced to abandon it on account of hemorrhage.

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[3] *Wien. med. Wchschr.*, 1909, Heft 37

[4] PA. MED. JOUR., 1912, XV., No. 7.

[5] Observations sur cervelet de epileptiques, 1911.

[6] Blair's case, cited by Tölken, *Mit. aus den Grenzgeb der Med. u. Chir.*, 1912, XXIV., 4 and 5.

[7] Melchoir: *Ber klin. Wchschr.*, 1911, XLVIII

The surgery of the hypophysis may be said to have its advent in 1906 when Schloffer described his extracranial method of approach. It was Schloffer's suggestion to expose the hypophysis by the extracranial and transphenoidal route that gave the real impetus to hypophysial surgery, but on account of its seemingly mutilating character the operation was not generally accepted, and it remained for others to add certain refinements which have made the method more acceptable.

Thus, in chronological order, we find Kanavel[10] and his infranasal operation, in which the nose is reflected upwards; Halstead[11] and his oronasal operation, in which the incision is made in the mucous membrane beneath the upper lip; and Hirsch[12] with his endonasal method. The latter is the operation of choice of all the transphenoidal methods, the conspicuous feature of which is the submucous resection of the septum and vomer, thus minimizing the danger of infection.

With one and all of these transphenoidal operations, however, there are two serious objections: One, the inevitable risk of infection from the mucous membrane. This has proved to be the determining factor in almost all of the fatal cases. The second objection is the rather contracted avenue through which one must work to reach the sella turcica, and the accompanying difficulty in securing an adequate exposure of the sella turcica and its contents. The variation in the size of the sphenoidal cells is a disturbing factor. When of comparatively large dimensions the exposure is not so difficult, but quite as often one will find cells of small dimension, through which the exposure is correspondingly contracted. As one would expect, the general surgeon experiences difficulty in his initial attempts in working in such cramped quarters; and the converse is quite true, for the nasal specialist finds the operation quite within his scope and sphere. For example, Hirsch of Vienna has been most successful in his work and has been able to carry the operation to a successful issue under local anesthesia.

To return to the intracranial methods, in 1908 McArthur[13] performed an operation through the anterior cranial fossa, though unsuccessfully, but in 1911 Bogojawlensky[14] with somewhat the same method obtained a satisfactory result.

I can not but feel somewhat prejudiced against the transphenoidal method, and although there are certain conditions in which this method will have to be resorted to, I believe the future will find that the approach through the anterior cranial fossa will be the operation of choice. With this in mind, I have endeavored to elaborate a technic which will make the exposure of the hypophysis as feasible as the exposure of the Gasserian ganglion. The procedure, which I resorted to lately, seems to me to be the safest and at the same time the most rational of any that has come to my notice. The operation consists essentially in the reflection of an osteoplastic flap from the right frontal region (see Fig. 1), in the removal *en bloc* of the supraorbital ridge, as suggested by McArthur, with a portion of the roof of the orbit (see Fig. 2), later to be replaced, in rongeuring away what remains of the roof of the orbit down to the optic foramen. With the elevation of the frontal lobe and the depression of the orbital contents (see Fig. 3), a free and adequate exposure is secured and there remains only to make a short incision in the dura to lay bare the cavity of the sella turcica. In the case referred to above in which this method was tried a cyst was found and evacuated, and I was surprised to find how free the operation was from any great technical difficulties.

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[8] *Deu. Klin.*, 1905, Vol. VIII.

[9] Verhandl. der deu. Gesellsch. f. Chir., 1908, XXXVII., 85.

[10] *Jour. A. M. A.*, 1909, Vol. LIII.

[11] *Surg. Gyne. and Obstet.*, May, 1910.

[12] *Jour. A. M. A.*, Vol. LV., p. 772.

[13] *Jour. A. M. A.*, Vol. LIII.

[14] *Jour. de Chir.*, April, 1912.

Apart from the vertical incision in the forehead from the hair line to the supraorbital region, the cosmetic results are all that one could desire (see Figures 4 and 5). In this connection, I should like to protest against the perhaps natural prejudice to operations on the hypophysis because the cosmetic results may not be ideal. But when we take into consideration how difficult of access the hypophysis is, and how really grave and distressing are the conditions which accompany perversion of its function, we should be willing to make the cosmetic results secondary in importance to the element of safety in operative procedure and the acquisition of the best results.

As with lesions of other structures of the central nervous system, the most difficult task for the surgeon is not the mere exposure, although of course the technical intricacies must first be mastered, but rather the proper treatment of the lesion after it has been exposed. This will depend upon whether we are dealing with a cyst, with a tumor, with a simple hyperplasia, or a struma. These are essentially the four pathological conditions which lend themselves to surgical therapy. In the case of cysts, as with tumors, the proper procedure is self-evident and consists in an evacuation of the former and the removal of the latter. With simple hyperplasia, the conditions to be met with are analogous to our present conception of those in the thyroid under similar conditions, where in the presence of an excessive or perverted secretion, the removal of a portion of the gland has been followed by a cessation of symptoms.

In the selection of the method of approach or the character of the operation to be performed, we must be guided by various considerations. Thus, for the relief of the symptoms of intracranial pressure occasioned by the enlarged gland alone or by a secondary hydrocephalus, the conventional decompression may suffice, and is especially indicated as a merely temporary expedient when for any reason further observations are necessary to determine the precise nature of the lesion and its pathological tendencies or the most desirable mode of attacking it.

Another factor of equal importance is the presence or absence of involvement of adjacent structures, such as the optic nerve and uncinate region. So, too, the selection of the intracranial or transphenoidal operation may be encroaching upon the sphenoidal cells without involvement of adjacent structures, and we have the most favorable conditions for the transphenoidal route, whereas with a shallow sella with symptoms suggestive of a tumor of some dimensions one would be inclined to approach the lesion from above via the anterior cranial fossa. In the patient upon whom I performed the operation I have described, the cyst protruded some distance above the floor of the sella turcica and had it been a tumor would have been removed with some difficulty by the inferior route.

It would be hard to find, in going over

the history of the first five years of surgical endeavor in a new field, a more encouraging record than is presented by the record of the first 86 radical operations reported for the relief of pituitary disorders, especially when one considers that in most instances only a partial removal of the growth has been possible. In the 86 cases which I have collected, I find that 53, or 61.5 per cent., have been greatly improved by the operation; in only 11 cases, or 12.7 per cent., was there no improvement. The mortality, 22 or 25.5 per cent., is still high, only as high, however, as it was not many years ago in operations on the Gasserian ganglion. The results are by no means brilliant, but when one realizes that in the hypophysis the surgeon or rhinologist is dealing with one of the most inaccessible parts of the brain, with an organ, the very anatomy and physiology of which are still in more or less conjectural stage, we can at least assume a hopeful attitude, and until organotherapy shall have made surgical procedures unnecessary, we can claim for surgery a means of affording a large measure of relief in a majority of otherwise incurable cases.

DISCUSSION.

Dr. Lawrence Litchfield, Pittsburgh: I have been asked why Dr. Frazier's paper was put in a general meeting instead of in the Section on Surgery. In reply I may say that our committee wished to reach the general practitioner, because we believe that a great many of these pituitary cases are drifting about the state from one man to another because the attention of the general practitioner has not yet been called to the diagnostic points by which these cases may be so easily recognized. Nothing is easier of diagnosis than a typical case of hypopituitarism. Once learned, the diagnosis of advanced cases may be made from across the street. It should be clearly understood that surgery is resorted to in these cases only for the neighborhood symptoms, that is to relieve the pressure which may be causing disturbances either of the motor system or of the ocular system. I have known several quite characteristic cases in which the diagnosis has been missed by very good men. If a patient comes to an ophthalmologist with paracentral scotomata, pallor of disk or well-defined optic atrophy, with evidence in the visual fields of a possible beginning of bitemporal hemianopsia, or with interlacing or inversion of the color fields, so-called dyschromatopsia, and with a feminine figure, absence of hair on face, and history of epileptiform seizures, grand or petit, and preceded by taste or smell auræ, there should be no hesitancy in recommending operation on the pituitary. If the general practitioner has a case of adiposity which does not yield in the usual manner to restrictions of the diet, and if the patient when stripped shows absence of sex characteristics or a resemblance to the opposite sex in physical outlines and distribution of fat and hair, and if there is loss of natural sexual instincts or possibly impotency, there should be no difficulty in recognizing hypopituitarism, for which pituitary gland should be prescribed in gradually ascending doses until the symptoms are controlled or until the patient shows the physiological effect of the gland by noticeable loss of weight. Unexpectedly large doses may be reached. I have a patient at the present time who is taking thirty of Armour and Company's three-grain tablets daily. Other signs and symptoms if sought for may make the picture even more characteristic, such as unwonted sensitiveness to cold, headaches, mental depression, irritability, loss of memory (or merely an unreliable memory), paresthesias, polyuria, dry skin, tendency to infantilism, drowsiness which may be overpowering, and evidence of heredity. Until neighborhood pressure symptoms appear there is no indication for surgical intervention. Time does not permit of more than a mere mention of the fact that when one of the ductless glands is involved others of the system are very apt to be affected, the result being a polyglandular syndrome rather than a simple case of pituitary, thyroid or suprarenal disease.

Dr. William Campbell Posey, Philadelphia: I think ophthalmologists are usually able to recognize diseases of the pituitary region, but unfortunately we do not as yet feel that we are always able to advise means to relieve the conditions which confront us. The previous speaker gives the impression that when the diagnosis is once made, operation should be advised. Ophthalmologists, however, have not as yet the same confidence in operative procedures, on account of the dangers of their fulfillment. With the results attained from operations up to this time, are we warranted in advising surgical intervention in cases in which the disease is evidently causing progressive loss of vision, but without other symptoms? It is my own belief that Dr. Frazier's method of exposing the pituitary body is the least dangerous and the simplest of all the methods which have been tried. No injury to the eye or the orbital contents need follow it. Ophthalmologists will await with interest the details of further operation by his method.

Dr. Wendell Reber, Philadelphia: I want to speak of one case which had well-marked focal symptoms with complete bitemporal hemianopsia. The patient absolutely declined operation and was placed upon pituitary body extract and thyroid. He recovered full visual fields in both eyes. It seems to me well worth while putting this case on record so that we may not feel that the patient is always positively committed to surgery. The results of surgery are brilliant and if the focal symptoms do not show prompt improvement upon resort to organotherapy, operation is of course, indicated.

Dr. George C. Johnston, Pittsburgh: The *x*-ray in pituitary disease shows enlargement when present and shows the change in shape of the sella turcica due to pressure on the posterior choroidal process. Unless the radiogram shows the posterior choroidal process its diagnostic value is not great. When the gland enlarges the process will not always show but will present pressure atrophy which will diminish the density of that particular portion of bone.

Dr. Francis X. Dercum, Philadelphia: It is surprising how large a number of cases of epilepsy we find presenting such peculiarities. Our knowledge of this subject is, however, too limited to enable us to speak definitely of the relation of pituitary disease to epilepsy but the facts thus far observed are very suggestive.

Dr. Frazier, closing: The subject is too important and too comprehensive to be covered in so brief a discussion and apart from the absorbing topics of the diagnosis and physiology of the hypophysial lesions, the surgical aspect alone is a phase of the subject to which considerable time could be given to great advantage. Time will not suffice for our discussing the various methods of approach, and in closing I should like simply to outline the method which I have found appropriate for the exposure of pituitary lesions. As will be seen by the accompanying charts, the operation consists essentially in the reflection of an osteoplastic flap from the right frontal region, in the removal *en bloc* of the supraorbital ridge with a portion of the roof of the orbit, and in the rongeuring of what remains of the orbital roof down to the optic foramen. When this point is reached, we are within striking distance of the sella turcica, and by making a centimeter incision parallel with, and a little above, the base of the skull, the optic tract and commissure is exposed and immediately behind them, the pituitary gland. In certain cases, I believe this method will be the operation of choice and will be preferred to the transphenoidal route, which has so often been followed by fatal attacks of meningitis.

GRADUALLY DEVELOPING HEMIPLEGIA DUE TO A CEREBRAL NEOPLASM.

BY M. HOWARD FUSSELL, M.D.,
AND SAMUEL LEOPOLD, M.D.,
Philadelphia.

(Read at the General Meeting of the Medical Society of the State of Pennsylvania, Scranton Session, September 25, 1912.)

The focal symptoms of brain tumor usually develop gradually. This may occur even when the cardinal symptoms are all absent. The following case illustrates a little known symptom complex, frequently diagnostic of brain tumor.

The patient, M.M., about six weeks before her admission to the hospital, complained of numbness and loss of power in the middle and ring fingers of her left hand. This was followed one week later by a spasm in left arm and some loss of power, which gradually increased. A little later she complained of pain in the thigh and weakness in the lower limb. At the time of admission to the hospital, the left arm was paralyzed and the left leg was weak, though she could drag the limb in walking around the ward. The paralysis gradually increased in the lower limb until she was compelled to remain in bed. One week previous to her admission she complained of headache. The eye grounds were normal. Her previous medical history showed that she had had a complete hysterectomy one year before.

General examination revealed a well-nourished female; no enlargement of the glands; heart dullness normal; no murmurs; lungs normal. Pupils were equal, reacted to light and accommodation; there were no palsies of the ocular muscles. The left side of the face was smoother than the right. Patient did not draw up the corners of the mouth so well on the left. There was no anesthesia of the face. The left arm was completely paralyzed. She could move the left leg but very slightly. Biceps and patellar tendon reflexes were exaggerated on the left side; Babinski's sign was obtained on this side. There was slight analgesia of the left arm and leg. Patient was somewhat drowsy and complained of her head.

Repeated examinations extending over a month failed to reveal any other symptoms save that the left-sided paralysis was more complete. The eye grounds remained normal.

She was trephined over the right rolandic area. No sign of a tumor could be found. Following the operation the patient gradually became emaciated and died several weeks later. An examination of the eye grounds during this time showed some choking of the disks.

At necropsy the brain showed no evidence of tumor in any portion of the surface of the right hemisphere. The dura at the site of the operation was widely separate and the tissue beneath showed more softening and exudate.

After the brain had been hardened in formalin solution, no changes were noted on the horizontally cut surface, with the exception of a small area of softening near the lateral ventricles on the occipital lobe. Portions were taken for microscopical study from this area and from the right rolandic area just beneath the site of the operation. These areas showed epithelial cells arranged in nests sharply defined from the brain tissue. The diagnosis was adenocarcinoma; probably secondary, from the fact that it was multiple.

In a study of this case we found that the chief feature was a gradually developing hemiplegia, extending over a period of several months. In its onset the sudden involvement of the various portions of the upper extremity resembled a thrombotic process. The cardinal symptoms of tumor, choked disk and vomiting were absent during the first months. Headache occurred only late in its course, while choked disk did not come on until after operation, and about one month before death.

T. R. Williamson in 1904 first called attention to the fact that progressively developing hemiplegia was an important sign of brain tumor. In his paper he states that it is well known that when hemiplegia is produced by a brain tumor situated in the motor cortex or white matter of one cerebral hemisphere, the onset of the paralysis is gradual. The movements of one portion of a limb become weak; the weakness increases steadily. It may be weeks or a few months before the paralysis is complete. "Headache, vomiting and double optic neuritis are also present." "In such cases provided there are no indications of suppurative disease in any part of the body and no indication of cerebral abscess, the diagnosis of cerebral neoplasm is certain." "But it is not so well known that progressive hemiplegia of the nature just described is an almost certain sign of cerebral tumor, even in the absence of optic neuritis, headache and vomiting, provided there are no indications of abscess." He reported three cases. In the first case, the person suffered with headache and vomiting for six months previous to her admission into the hospital. The paralysis began in the leg and extended to the arm. Three months elapsed before the paralysis was complete. Optic neuritis was absent. Drowsiness was present. In the second case, vomiting and headache were absent until a month before death. Optic neuritis was absent. The mental condition was peculiar. The third case showed no headache, vomiting or optic neuritis. Drowsiness was marked. Only one case of the three showed an absence of all the cardinal symptoms.

In 1908 Souques reported a case of gradually developing hemiplegia with cardinal symptoms absent.

This symptom complex according to Spiller may be present in several other conditions, and he believes that Williamson has expressed his opinion too forcibly. In 1909 he called attention to this syndrome and commenting on it, he stated: "A gradual developing hemiplegia I have seen as a symptom of polioencephalitis." "Cortical meningitis may cause a gradually developing hemiplegia and the meningitis may be purulent or of other type." He also reported three cases of gradually developing hemiplegia due to tumor.

Spiller has also seen thrombosis of the middle cerebral artery cause a gradual increase in the symptoms as seen in tumor, but usually, when thrombosis is the cause, the development of the symptoms is more rapid.

One of us has recently seen a case of gradually developing hemiplegia in which the hysterical manifestations obscured the diagnosis. It was not until several months after the onset of the symptoms that a slight blurring of the eye grounds presented evidence of increased cerebral pressure.

Slight clouding of the consciousness or drowsiness seems to be present in most of the cases which showed a gradually developing hemiplegia. Of pathological interest was the fact that no tumor could be detected grossly, and that only after microscopical studies were made could the diagnosis be confirmed. The presence of two nodules in separate areas of the brain indicated the metastatic character of the growth. The carcinoma cells were arranged in nests which were sharply defined from the surrounding brain tissue. The nodules were subcortical, which explained the absence of any surface changes.

Any member desirous of preparing a paper for the Philadelphia Session, September 22-25, 1913, should communicate at once with Dr. Lawrence Litchfield, 5431 Fifth Ave., Pittsburgh, Chairman of the Committee on Scientific Work, giving him the title and a brief outline of the proffered paper.

PARAPLEGIA IN HODGKIN'S DISEASE—TREATMENT BY LAMINECTOMY AND THE ROENTGEN RAYS.

BY CHARLES K. MILLS, M.D.,
Professor of Neurology in the University of Pennsylvania.
AND EDWARD MARTIN, M.D.,
John Rhea Barton Professor of Surgery in the University of Pennsylvania, Philadelphia.

(Read in the Section on Surgery of the Medical Society of the State of Pennsylvania, Scranton Session, September 24, 1912.)

It is worth while to report to a society a single case only when it is unique or presents points of unusual interest. Some study of the literature of Hodgkin's disease indicates the rarity of spinal focal lesions, like the one here recorded, in this affection. Any involvement of the nervous system in the shape of a focal lesion is in fact comparatively rare in Hodgkin's disease, and when present may be the result of invasion of the vertebral canal from without. Advancing disease of the glands of the posterior mediastinum may cause erosion of the spinal column and in this way bring about secondary implication of the nerve roots and cord, with paraplegia and a variety of sensory and reflex phenomena.

One of the very few reports of cases of paraplegia in Hodgkin's disease is that by Warrington. This case of lymphadenoma, terminating in paraplegia, was recorded in the *Medical Press and Circular* (London), Volume 144, Number 23, June 7, 1911. As Warrington remarks in reporting this case, while the lymphadenomatous growths frequently press upon important structures, erosion and the destruction of bone is unusual.

Warrington's patient was a man, forty-six years old, who was admitted to the hospital because of enlarged glands in the neck. The spleen was enlarged and the patient complained of a band of pain round the lower part of the thorax. On examining the excised gland the lymphstroma was found to be greatly reduced and replaced by fibrous tissue. Various examinations with the view of determining the real nature of the case are recorded. The patient left the hospital and returned again in less than a year, wasted, anemic and dropsical. He was then paraplegic to a marked degree and complained of much pain in the legs. The paraplegia rapidly increased until it became complete. Death took place in about four years from the beginning of the illness. Many important advanced lesions of various viscera were found at the necropsy.

The lesion causing the paraplegia was found to be a massive growth that had eroded the bodies of the eighth to the twelfth dorsal vertebræ. This growth had pressed upon and extended downward along the spinal dura. Both macroscopic and microscopic examinations showed the well-known findings of Hodgkin's disease. These and the appearance of the spleen showed that the case was one of lymphadenoma and not a form of sarcoma.

The case which is the particular subject of this contribution is as follows:—

A woman, aged thirty-five, white, single, was admitted to the Hospital of the University of Pennsylvania, April 11, 1912, and was seen by Dr. Mills in consultation with Dr. William S. Newcomet and her brother, a physician. She had suffered several years from what had been designated and treated as Hodgkin's disease.

Four or five days before coming under observation she for the first time noticed some weakness in using her legs. Three or four months previous to this she had had severe pain in the back between the shoulder blades. This in about three weeks disappeared. A week or two previous to her first being seen, the pain had returned and had become gradually of great severity. It was found on examination to be located about the position of the third and fourth thoracic vertebræ. She was seen by Dr. Mills and put to bed on April 7, about one week after the appearance of the paresis in her lower extremities. Four days later she was removed to the University Hospital.

Examination on admission showed that she was suffering from a total paraplegia, the loss of power being complete in both lower extremities. The day after her admission she began to develop paralysis of the bladder and was soon unable to expel urine, necessitating catheterization. The patient had intermittently strong spasmodic contractions of the extremities, these being sufficient to raise the limbs from the bed. At times the legs were drawn up and adducted, and even crossed. At times the jerking was confined to the foot alone and, when the spasms were absent, the limbs had a numb and dead feeling. The abdomen became greatly distended after meals, causing much distress. The patient had profuse night sweats.

The account of this patient before coming under the care of Dr. Mills and Dr. Martin will be given in condensed form in the remarks of Dr. Jopson. It is sufficient here to say that the case at first supposed to be tubercular was later determined by pathological examinations to be Hodgkin's disease. Operations on glandular enlargements in the neck were performed by Dr. Jopson and Röntgen ray treatment was given by Dr. Newcomet with considerable relief of pain and other symptoms.

After admission to the University Hospital several examinations were made both by Dr. Mills and Dr. Spiller, with the assistance of the resident physician, Dr. Manier. The following is a summary of the results of these examinations:—

The paraplegia was complete; persistent but moderate foot clonus was exhibited on the left side, and a slight Babinski response was also obtained on the left.

A complete study of all forms of impairment of sensibility was made—of epicritic, protopathic, deep pressure, tactile discrimination and spot localization. The result of the examinations was to indicate that an intraspinal lesion, at least as high as the fourth thoracic vertebra or higher, was present.

On April 14 she suffered some numbness or peculiar feeling in the little and ring fingers and ulnar side of the left hand and forearm. This was much worse the next day, with increase of pain through the spine between the shoulders. The patient thought this pain was greater than any she had before experienced, It was very severe at night but the next morning the pain was almost gone and the paresthesia in the fingers and hand was much less.

For a day or two the patient had had an increasing sense of constriction about the body at the highest level of impaired sensation, that is about the level of the third rib. At times she felt as if the lower extremities were raised when they were down, or the reverse, indicating loss of the sense of position.

The symptoms continued without much change except some increase in the pain in her back and greater impairment of the sense of position and passive movement in the lower extremities. In some examinations the level of lost and impaired sensibility seemed to be a little higher than above indicated. As the location of a lesion causing impaired sensibility is often somewhat higher than the levels of the nerve roots which appear to be most affected, it was concluded that the upper level of the spinal lesion might be as high as the third or even the second thoracic segment. This was important in deciding the question of the proper location for the laminectomy that was determined upon after consultations. It was concluded that the lamina of the third thoracic vertebra should first be removed, proceeding upward to the second unless the appearances indicated in the field of operation were such as to suggest removing the fourth.

The operation was performed by Dr. Martin. On removing the lamina of the third vertebra a growth was found involving the spinal membranes and encircling and infiltrating the cord, which was somewhat distorted. The opening was enlarged upward and downward and Dr. Martin removed as much as possible of the growth, but was unable because of its infiltrating character to make this removal complete. The patient made a good surgical recovery. The severe pain from which she had suffered disappeared, the level of the anesthesia descended several inches and the patient recovered some control over the bladder. Improvement in the paralysis was inconsiderable, the patient remaining as before almost completely paraplegic, with exaggeration of the deep reflexes. Röntgen ray treatment was then resorted to again and was continued up to the time of her leaving the hospital several weeks after operation. The applications were made so as to affect the portion of the spinal canal in which the growth was located.

Three months after the operation the patient wrote stating that the *x*-ray had been continued after leaving the hospital; that her suffering was greatly diminished and that she could sleep through the entire night except because of some disturbance of her bladder.

REMARKS BY JOHN H. JOPSON, M.D., PHILADELPHIA.

The patient first came under my care in February of 1909. At that time she had glandular enlargements on one side of the neck, most marked just above the clavicle, with slight enlargement at the angle of the jaw. At the operation at this time the entire lower portion of the chain of glands was dissected out in the posterior triangle of the neck through a four-inch incision; and another gland was removed through a separate incision at the angle of the jaw. The glands were beginning to show caseation. Sarcoma had been suspected before operation, and our minds were much relieved when this breaking-down process was found to be present.

The question of Hodgkin's disease was not considered at this time. Two competent pathologists reported from different laboratories that the process was tuberculous.

In September, 1909, she was again operated upon for a recurrence on the same side of the neck; the glands removed showed no breaking down. A histological examination was made at this time by Dr. Canby Robinson, now of the Rockefeller Institute, and by Dr. Warfield T. Longcope, both of whom made a diagnosis of Hodgkin's disease. This diagnosis came as a surprise, as the previous diagnosis of tuberculosis had seemed so positive. Shortly before this she had developed a swelling over the sternum, the exact nature of which was a matter of conjecture.

Following this second operation, and from the fall of 1909 down to the time of the development of the paraplegia, this patient had been under observation. During this time she had taken treatment by the *x*-ray at frequent intervals. She had maintained a condition of fairly good health, although she had suffered at times from pains radiating through the upper part of the chest. She had, however, led a fairly active life and had pursued many of the ordinary pleasures and avocations of her station; but, in April of 1912, it was evident that the pathological process was getting beyond control. There was an enlargement of the axillary glands on the left side. Some glands had enlarged in the neck, and gone down again under x-ray treatment. She was also complaining of more pain. It was about two weeks after this observation that the gait became affected, and paraplegia rapidly developed. The rest of the history has been well given by Dr. Mills and Dr. Martin.

The interesting and unusual points in this case, it seems to me, are: (1) The apparent caseation and softening of the glands, which was noted at the primary operation, and which is not usual in Hodgkin's disease; (2) the involvement of the sternum, probably in the nature of a subperiosteal infiltration; (3) the fact that by thorough early extirpation, combined with subsequent x-ray treatment given over a long period, this patient was held in a fair state of health for more than three years.

If Hodgkin's disease be in the nature of an infection, and the fact that a granular acid-fast bacillus closely allied to the tubercle bacillus has been consistently found in the cases recently studied by Sternberg and others points in this direction, then radical treatment along surgical lines would seem to be warranted. This would consist in thorough extirpation, followed up by prolonged x-ray treatment, and would, of course, be possible only where the disease was localized to one region.

REPORT OF CASES ILLUSTRATING CERTAIN PHASES OF CEREBROSPINAL SURGERY.

BY J. STEWART RODMAN, M.D.,
Philadelphia.

(Read in the Section on Surgery of the Medical Society of the State of Pennsylvania, Scranton Session, September 24, 1912.)

I have chosen to report to you certain cases illustrative of various phases of surgery of the brain and spinal cord, feeling that a clinical report is more practical and interesting to the majority than theoretical discussion.

Perhaps a word concerning the relation of neurologist and surgeon will not be amiss. We believe that, ideally, the surgeon should be skilled in localization and neuropathology, that, in short, he should be a competent neurologist as well as surgeon. Such skill, however, takes years of patient work to acquire, and, while endeavoring to become so trained, we consider that it is absolutely essential that the surgeon have at his right hand a neurologist whose advice should help to guide him before, during, and after operation.

Certain points in the preparation of neurological cases for operation are worthy of mention. We are sure that Cushing and Crowe of Johns Hopkins did a real service in pointing out by experimental evidence that urotropin was eliminated in the cerebrospinal fluid, and by suggesting its routine use previous to operating on the brain and spinal cord. It was used in all of the fifteen cases which constitute the basis of this report, a few of which I shall speak of in some detail later. Having been fortunate enough entirely to avoid infection, I have inferred that urotropin does render the cerebrospinal fluid an unfavorable medium for bacteria. Needless to say, rigid asepsis has always been observed, so that it is possible that no infection would have occurred without the use of urotropin. As all my cases have received this drug, however, I am not in a position to compare results with a series where it was not employed. I am careful not to overpurge these patients and do not believe that morphin should be given previous to operating, despite the fact that it is routine for other cases unless definitely contraindicated. Morphin will mask slightly the stage of anesthesia, and for this reason is undesirable.

A word may also be said concerning the actual operative technic. It is best to make haste slowly, although we are always trying to shorten the time required to perform the operation. It will, at best, be a long and trying procedure, since it is far more important to the patient to lose as little blood as possible than to finish the work in rapid order. We believe that to stop all bleeding at every stage is the most important factor in preventing shock. For this reason a tourniquet is employed where an osteoplastic flap is to be turned down, and careful efforts should be made to check scalp bleeding by forcipressure where it is not feasible to use tourniquets. Horseley's wax is very valuable in controlling bone bleeding, and fine silk ligatures will suffice to check hemorrhage from the dura. I have used hand-driven instruments to fashion the osteoplastic flap itself, making primary openings with Hudson's drill and cutting between with a Gigli saw and Hudson's forceps. Time may be saved by using an electric motor to drive an osteotome, but the greater safety of hand-driven instruments is sufficient reason for their employment. In the hands of some operators the more rapid method has been perfectly safe. Manipulating of brain tissue itself should be done with the greatest delicacy and care, as it is easily lacerated. Though some think that blood pressure observations are unnecessary, I have invariably had them made during the course of the operation and depended largely upon the findings. There is no better way of avoiding sudden collapse than by taking warning from a drop in the blood pressure. Such a drop will often force the operator to accept a two-stage procedure. When an extensive operation becomes necessary, as is always the case when an operable tumor is found, it is best deliberately to choose a two-stage procedure, leaving the enucleation of the tumor itself to be done three, four or seven days after the primary operation. Much more could be said about technic which, through the work of Horseley, Krause, Cushing, Frazier and others, has become more or less standardized.

Trauma to the head or spinal column will at times be followed by localizable symptoms due, as a rule, to a collection of blood or serum causing pressure on certain areas of the brain or spinal cord. Cushing[1] states that "instances of actual hemiplegia from an extradural hemorrhage have also been recorded but they must be rare (since the centers for the lower extremity lie so far away from the primary point, at which an extravasation of this sort is likely to arise, that a clot large enough to implicate the upper ridge of the hemisphere would, in all probability, lead to such deep coma that symptoms of hemiplegia could not be appreciated, or else would cause death before they were apparent)."

Having operated on the following case my interest was aroused in this subject, and a search of the literature showed that Weisman, Jacobson, Pringle, Plummer, Jopson and others report instances of actual hemiplegia caused by extradural clots, some of the reports comprising an extensive series. My own patient did not have a fracture of the skull, but the extradural clot was enormous, certainly as large as a saucer and one and one half inches thick at its center, covering the parietal and even extending back to the occipital region.

This patient was a young man, twenty-eight years old, who was admitted to Prof. Rodman's service at the Medico-Chirurgical Hospital, September 27, 1910. He had been a hard drinker, and three days prior to admission to the ward he received, while intoxicated, a heavy blow from a black-jack on the right side of the head just above the ear. He did not lose consciousness, but walked to his home where he immediately went to bed. Upon attempting to arise six hours later he noticed that his leg was stiff, and that he had some difficulty in raising it. He became drowsy and hard to arouse. He did not vomit. A physician was called twenty-four hours after the accident and advised his removal to the hospital.

When first seen in the ward his temperature was 99⅗°, pulse 60, respiration 18. He was apparently asleep, breathing heavily. He could be aroused and would answer questions fairly intelligently. Examination of the head failed to show evidence of fracture of the skull, but there was some tenderness and swelling of the soft parts in the right temporal region. Pupils were slightly irregular, the right being larger than the left. There was some weakness on the right side of the face and the tongue protruded slightly to the left. There was a flaccid paralysis of left arm, and spastic paralysis of left leg. Babinsky's sign was positive on left leg, and all reflexes were increased on left side of body. Heart and lungs were normal; eye grounds were negative, as were laboratory findings. Blood pressure was 150 mm.

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[1] Keen's System, Vol. III., p. 204.

As there was no improvement three days after his admission to the hospital, operation was decided upon. Accordingly, an osteoplastic flap was turned down on right side of head over motor area. The edges of the clot extended beyond the margin of the wound, and there was marked displacement of the brain. After removal of the clot several small branches of the middle meningeal artery bled and were ligated with fine black silk. The dura was not opened. The flap was returned, the wound closed, and gauze wick drainage employed. On the following day the patient could move his left arm and leg, normal power returning four days after operation, at which time he was able to walk. Postoperative recovery was uneventful, and the man was discharged two weeks after operation perfectly well.

The exposure of the clot by an osteoplastic flap was so satisfactory in this instance as to lead me to believe that this method should always be used to expose clots from the middle meningeal artery. Though Plummer recommended the use of the Hartley-Krause flap about five years ago, I think the old-fashioned trephine and rongeur is still used in most clinics. Much has been written by Cushing, Frazier and others concerning the value of decompression of the brain if done early. It is now well recognized that subtemporal decompression has its definite indications, its undoubted value and low mortality. The fortunate outcome of the following case has convinced me that this procedure offers much for the relief of otherwise inoperable lesions.

This patient, a colored woman, thirty-two years of age, suffered from convulsions, intolerable headache, vomiting and even delirium. There was marked papilledema, with almost total loss of sight, and most pronounced exophthalmos.

A subtemporal decompression was done at the Presbyterian Hospital, January 30, 1911, Dr. E. B. Hodge kindly assisting in the operation. Enormous pressure was found on opening the dura and numerous small growths, each about the size of a pea, studded the piarachnoid. She began to improve almost immediately, and at the time of her discharge from the hospital, three weeks later, was entirely relieved of headache and her eyesight was sufficiently good to permit her going about. She came to my office one week ago. No one could imagine a greater transformation than has taken place in her appearance since the operation. The improvement in her condition continues; she never has headache, can read perfectly with glasses, and has gained twenty-five pounds.

The results have not been so fortunate in all of my cases; in fact the last patient operated upon, and now in the hospital, has not been relieved. He, however, has had optic atrophy and other advanced tumor symptoms for years, and the operation was done solely with the idea of relieving his unbearable headache. This it did for a short time.

Unless there is strong evidence of a subtentorial lesion, possibly operable, suboccipital decompression should not be attempted, as it is a far more difficult procedure. The mortality is also greater. In a case referred to me by Professor Potts the pressure was so great as to cause the left cerebellar hemisphere to explode upon opening the dura. This man, however, made an operative recovery with only slight ataxia. Despite the value of decompression it is at best palliative and should give way to, or at least become part of, an exploratory operation wherever possible. The osteoplastic flap, however designed, is used for this purpose. Horseley's recent statement that such exploratory procedures should be carried out much more frequently than formerly, and even used in cases suffering from lesions of undoubted specific origin, is of great interest because of his unquestioned authority.

Surgery of the spinal cord has made rapid advances within a very few years. It offers largely the same difficulties to be overcome as does surgery of the brain. The approach to the cord is best done by simple laminectomy. We do not believe much in laminectomy for the relief of fracture dislocation. Allen's recent work, however, has given renewed interest to these traumatic cases. If, by decompressing the cord of dogs, that is, by making a longitudinal slit in the substance of the cord itself and letting out serum which has been produced by direct trauma, he can entirely relieve the paralysis, there is no reason why decompression of the cord in human beings should not be done in suitable instances. So far as I know, no report of such an attempt has yet been made. The removal of extradural and extramedullary tumors is not difficult. A patient in whom I was fortunate enough to find and remove a small extradural fibrosarcoma, accurately localized by Professor Weisenburg, made a beautiful recovery, was entirely relieved of all symptoms of pressure on the cord, and is at present following his usual occupation. In three instances I have cut posterior roots to relieve suffering. One of them was bettered for a time, but in none has the result been permanently gratifying.

Time is wanting to report in detail all of the fifteen cases operated upon. The foregoing general remarks are largely based upon a study of these cases. There has not been a fatality in the series. I have been impressed with the movement which has always followed an exploratory operation, even though an inoperable lesion was found, and therefore feel that such operations offer to the patient the greatest chance of, at least, temporary comfort.

DISCUSSION

DR. THEODORE H. WEISENBURG, Philadelphia: I am very much interested in Dr. Rodman's paper because some of the patients operated on by him happened to be my own. The case of tumor of the spinal cord was interesting neurologically because the diagnosis was made only upon the loss of the knee jerk on one side. Generally speaking there is little new to be said on work of surgery of the brain, although we often have cases that puzzle us a great deal. I remember three years ago being asked to see a patient in the Philadelphia Hospital who had the following group of symptoms: Sudden onset of left hemiplegia and on the right side Jacksonian convulsions. The surgeons wanted to know on which side to operate. Because of the left-sided hemiplegia I thought it more important to operate on the right motor area, because I reasoned a hemiplegia should give more definite localizing symptoms than convulsions. The surgeon operated, the patient died and I got the brain. I found a cortical hemorrhage on the left side which accounted for the convulsions but nothing to account for the paralysis.

A year later I had a similar case and again I gave the surgeon the same advice and he operated and found nothing. About two months ago I happened to be on duty in the Philadelphia Hospital and was asked to see a patient who had the same symptoms, that is, left hemiplegia and convulsions on the right side. This time profiting by my two previous failures I advised operating on the other side and the surgeon did so, and removed a large hemorrhage and the patient got well. The hemiplegia completely disappeared. Now I do not understand why a man who has a hemorrhage on one side should have a hemiplegia on the same side without any apparent organic lesion.

The most interesting work on surgery of the nervous system is being done in surgery of the spinal cord. The most recent work is that proposed by Dr. Mills. As you know there has been very little done by surgeons or anyone on those cases of paraplegia in which there is paralysis of the bladder, but Dr. Mills proposes an entirely new operation and the results seem to have been successful; that is he proposes that we should do an intradural root anastomosis. It was done in one case. This operation opens up large possibilities for it will be possible to do intradural root anastomoses in anterior poliomyelitis and similar cases.

DR. CHARLES K. MILLS, Philadelphia: I never like to take credit for anything that does not entirely belong to me. I did however, without any knowledge of any previous suggestion in regard to the matter, advise that intradural root anastomosis should be done in a case I saw in consultation with Dr. Frazier. I afterwards learned what perhaps I should have known before, that Kilvington advised this operation as the result of some experimental work on dogs and that it had once been tried unsuccessfully on the human being. The suggestion came to me while examining the patient and on seeing the utter hopelessness of helping the distressing bladder paralysis in any other way. This case will be reported in the *Journal of the American Medical Association* (December 21, 1912, p. 2202) in the proceedings of the section on nervous and mental diseases of that association. In connection with Dr. Frazier some suggestions were made by us that these root anastomoses can be done not only in a case of this sort especially, but also in a few other cases, as, for instance, in some poliomyelitic cases with paralysis of the intrapelvic muscles. Dr. Frazier and I have also suggested the possibility of crossed anastomoses, that is, from one side of the spinal cord to the other. Some observations which were made by Dr. Frazier on the cadaver indicate where this could be done.

There are, of course, not many absolutely new things in cranial and spinal surgery, but great improvements are being made in some directions. While the question of section of the posterior roots for pain is not new it is one of much interest. One of its most important uses is in those cases in which crises of pain are almost absolutely limited to certain thoracic or other areas where for instance we have gastric crises or vesical crises. Here the operation has been done with great advantage.

With regard to osteoplastic operations and other cranial operations, it has always been a source of wonder to me that distinguished surgeons of foreign countries still adhere to what seems to me to be rather ancient methods of making large openings in the skull. With the facilities at our command and with the advantages of the osteoplastic methods which are now so familiar and often used by Dr. Martin, Dr. Frazier and others in this country, especially in Philadelphia, and particularly with the use of electrical appliances, it seems strange that the old methods with the trephine and rongeur, or even with the surgical hand saw, still used by one well-known English surgeon, should have so large a place.

Where we think there is a focal lesion the opening should be made whenever possible, so it can be either radical or for decompression. My own choice is to make an osteoplastic flap and be ready to make a decompression opening not in the flap but in the bordering bone, usually at one of the lower angles of the flap. The work done by Dr. Rodman, along neurologico-surgical lines, has been not only interesting, but of an unusually successful sort and while there is not much to discuss in regard to some of the operative procedures which he has described the whole subject, as presented by him, is worthy of the society's close attention.

Dr. Charles E. Thomson, Scranton: I would like to report a case very similar to that Dr. Mills has been discussing which I operated upon and reported at the Orthopedic Section in Chicago, I think in 1907. This was a man who, in the mines, received a very severe spinal injury and on cutting down and doing a laminectomy I found that the cord was completely severed. We then made an anastomosis of the nerves on either side extradurally, down past the seat of injury. Unfortunately, the man died of intercurrent abdominal troubles about ten days later and the results of our operation were lost. However, I thought it might be worth while to describe the case here inasmuch as the subject was being discussed by Dr. Mills.

Dr. Edward Martin, Philadelphia: One word in regard to Dr. Rodman's admirable paper. He spoke of Allen's experiments which seemed to throw a great light on the treatment of fracture dislocation and injury of the cord. Allen's dog experiments showed that an animal with contused cord if treated by midline section into the cord would recover, and that all the control dogs not thus treated, and hit a similar blow, died. At the completion of Allen's experiments there happened to come into the hospital a man with a fracture luxation between the sixth and seventh cervical vertebræ with the typical characteristic signs of a complete severance, using the term severance in its functional, rather than its physical, sense. The *x*-ray showed no displacement and this seemed to be a proper time to try Allen's procedure. I did a laminectomy and as Allen was the experimenter I sent for him and had him make his puncture hoping it would be the first case on record. This he did, making a cut about 2 cm. long. The case ran its usual course except there was a prompt lowering of the line of anesthesia. In seven days the patient's wife made up her mind that she could not live without him and took him home. He could not live with her and shortly died a septic death incident to lack of intelligent attention and facilities for proper treatment.

Dr. Mills: Whether before or after the case Dr. Martin refers to I do not know, but probably after, I saw a case with Dr. Spellissy at St. Joseph's Hospital in which we decided to do this operation of longitudinal incision of the cord a day after the injury. This was done by Dr. Spellissy. The result in this case was not beneficial, probably because of the extremely serious state of the patient. I believe the same operation was done at the University Hospital in a third case, with which I had no connection. The suggestion of Dr. Allen is an interesting one, which has a real but limited application.

Dr. Rodman, closing: In closing the discussion on my paper, I wish first of all to thank the gentlemen who took part in it. I have little to add. The time allotted me was so short that I was unable to go into the details of many interesting case histories included in the series. For instance, section of the posterior roots was done in one case of carcinoma of the vertebra, and was followed by relief of pain for a short time. I have been much interested in Dr. Allen's experimental work, feeling that he has clearly demonstrated, at least experimentally, the value of decompression of the cord, if done early in suitable cases. There has not been an opportunity for me to try the suggestion on the human subject since his report, so that I was naturally much interested in Dr. Martin's remarks and the report of his case. I feel that we should give Dr. Allen's suggestion a thorough trial before reaching final conclusions.

THE TREATMENT OF FLAT FOOT.

BY DE FOREST P. WILLARD, M.D.,
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(Read in the Section on Surgery of the Medical Society of the State of Pennsylvania, Scranton Session, September 24, 1912.)

I wish to bring to your attention the subject of flat foot and the treatment of this, the most common deformity of the body. Not only the orthopedic surgeon but also the general practitioner is repeatedly confronted with the relief of this most disabling condition. Good authorities state that one fifth to one fourth of the deformities of the body are due to weakness of the tarsal arch. It is so common that even the shoe and brace makers have taken it upon themselves to become our coworkers in its relief.

The symptomatology and diagnosis present no difficulties and need not enter into the present discussion. However, a clear understanding of the pathogenesis of the condition is of extreme importance in the scientific treatment. From the point of view of the mechanical support of the body, the bones of the foot may be considered as a triangle, the three angles lying at the head of the first metatarsal, the fifth metatarsal and the posterior portion of the os calcis. The weight bearing portions of this triangle are the base, *i. e.* the heads of all the metatarsals; and its outer edge, *i. e.* the fifth metatarsal, cuboid and os calcis. The inner edge does not touch the ground. If then the bony structure of the foot was our only support, the weight of the body falling as it does normally between the second and third metatarsals would cause the foot to evert and bring the inner side of the triangle to the ground. To counteract this tendency we have to depend upon the slinglike action of the muscles of the lower leg to hold the foot in the proper position. The principal muscles of this group are the tibials on the inner side and the peroneals on the outer side (the tibials to invert, the peroneals to evert the foot). Any weakness or inadequacy of the inner muscles (the tibials) or any overaction of the outer or peroneals will cause the foot to evert or pronate when the body weight is placed upon it. When this occurs the line of weight bearing is of necessity shifted inwards and thus throws more strain on the supporting muscles. As the tibials stretch, the strain is thrown on the plantar fascia and the ligaments of the tarsal joints, which gradually give way, and the normal arch disappears.

Such is the usual formation of flat foot. During the early stages, when there is muscular strain with little or no displacement of the bones, much can be done. As the condition progresses, the difficulties in treatment are proportionately increased.

A second important factor in the relief of this condition is the proper realization of the etiology. The causes are many. Briefly, they may be classed as intrinsic and extrinsic. Under the first heading fall such factors as paralysis, especially of the tibials; contractions of the peroneals, or tendo achillis; general muscular weakness, such as that following a prolonged illness, or as seen in rapidly growing children; rickets with its deformities and bony weakness; and congenital faults of bone and muscle. Under the second (extrinsic) come the occupational factors where long periods of standing cause the giving way of the arch supports and secondly, trauma of various forms. Under this heading Pott's fracture, with its subsequent eversion, might deserve especial mention.

Many of these etiologic factors are of extreme importance in the prevention of flat foot. We should always bear in mind that in children, rickets and rapid growth will, in a large majority of cases, bring on flat feet, and we can prevent months and perhaps years of discomfort or suffering by the early proper support of the tarsal arch. The same can be said of either children or adults, suffering from any prolonged weakening illness, or from such accidents as Pott's fracture. Flat foot should be expected as a sequela of these conditions and every effort should be made to give the proper support until the causative factor has been removed.

As to the actual treatment, it is impossible to go into all the methods of overcoming this deformity in its various stages. It is particularly to the treatment in the pronated type that I wish to call attention. There are four indications that must be complied with: (1) To strengthen the weakened muscles; (2) to allow the foot to assume its normal position; (3) to relieve the strain on these muscles by throwing the line of weight bearing toward the outside of the foot; (4) to support the arch until the muscles are ready to take up their full work.

To meet these indications, we have various measures to resort to; First, muscular exercises to strengthen the weakened muscles and to stretch the contracted ones. These exercises should be carried out carefully and faithfully by the patient for ten to thirty minutes daily, and in general consist of slow active movements of the foot, raising of the toes, inverting the foot in the standing posture, circumduction in both directions, inversion and pantar flexion of the foot in the sitting position. To these active motions, massage and passive motion, hot-air treatment and hot and cold douches are distinct adjuncts. These fulfill our greatest requirement, that is, to strengthen the muscles.

To meet the remaining we must see to it that the foot is properly clothed. Such a shoe must have, as its essential features, a high upper, built upon a straight last, that is, one the sole and heel of which are in a straight line on the inner side; a rounded toe; a low, broad heel, preferably extended forward on the inner side (usually known as the Thomas heel) and a broad stiff shank; in addition, the counter, or stiffened portion of the upper should be extended to the anterior portion of the arch. Such a shoe will in many of the earliest cases be sufficient. In others, it may be necessary to add an inner wedge of leather inserted into the sole and heel with a thickness of one eighth to five eighths inches at its inner border and tapering gradually as it approaches the outer side. This will cause slight inversion and shift the line of weight-bearing toward the outer side of the foot. Another valuable addition in the more advanced cases are pads placed under the instep and supporting partially the tarsal arch. These can be made of felt, cork or leather as needed.

It is hardly within the province of this paper to take up the operative procedures on the bones and tendons. The same may be said of forcible correction under ether and plaster-cast treatment. These are applicable only in the more advanced stages in which the milder methods have proved useless.

There is yet another method of treatment to be mentioned and that is the use of an unyielding arch support, plate or insole. It is by far the most common type; it is the easiest to prescribe and it does the most harm. In hospital and private practice and even in our daily conversations we find people who tell us that they have had trouble with their arches and that they have gone to some shoe store and bought a pair of arch supports and that they feel much worse. The reasons are obvious, the etiological cause is not considered; the shoe worn is probably helping to advance the condition; the insole does not fit the individual foot and in nine cases out of ten increases rather than decreases the discomfort. The ordinary arch support is painful, it gives pressure against an already inflamed area and by this pressure causes more inflammation and later atrophy of the underlying muscular and connective tissues. It is unstable; the weight of the foot pressing on the raised inner portion tilts the support and raises the part lying under the outer portion of the foot and helps to increase the pronation. To put it plainly, the support helps the disease and not the patient. It must be admitted that a plate built from a plaster model of the patient's foot and firmly inserted into a shoe will in certain types of cases be helpful. At the very best, such a plate will only be a temporary support for the arch and in no way will it dispose of the causative factors of the condition. Nature has given us a permanent arch support. If this be inadequate, it is the duty of the surgeon, in this as in all diseases, to assist nature rather than to introduce artificial appliances. The human body is constitutionally lazy. No tissue in it will be kept up to its usual high standard of efficiency if its work is being done for it by outside sources; and this is especially true of the muscular system, which will always show marked atrophy when their daily duties are suspended.

In the dispensaries of the Orthopedic Department of the University Hospital and the Orthopedic Hospital in Philadelphia, the methods above described have been in use for several years. The metal arch support has been practically eliminated and the results are quicker, more permanent and more satisfactory than in previous years. The method is simple in itself; the exercises are not complicated; shoes, of the type already described, can be obtained in many stores and the necessary alterations can be made by any expert cobbler. Many patients object to the clumsiness of such shoes, but if they can be induced to give them a fair trial, it is rare indeed to find one who would part with them. Another objection is the amount of time necessary to properly carry out the exercises. As a matter of fact, the time is exceptionally short when compared with that needed in the treatment by arch supports. Patients must be made to understand that their restoration to normal must depend largely on their own efforts, that their physician can only advise and encourage, but that the major portion of the treatment rests in their own hands and that the faithful performance of their daily exercises is the surest road to recovery.

DISCUSSION.

Dr. David Silver, Pittsburgh: Dr. Willard has brought before us a very important subject. I think it simply appalling to see the large number of people who wear arch supports. It has reached the point where every shoe clerk suggests a support on the slight complaint of foot weakness. Since orthopedic surgeons are undoubtedly responsible for the introduction of this method of treatment, it is proper that we should be the ones to sound a note of protest.

In my experience there are two classes of patients who may have to wear arch supports more or less constantly, or shoes constructed with stiffened shanks which amount to the same thing: to one class belong the heavy patients who break down any shoe and the lazy ones who will not work; the second class consists of those who have abnormally high arches in which a light spring may be needed to make up for the low shank of the ordinary shoe. In other cases arch supports are necessary only occasionally for temporary relief, the object of treatment being not simply the relief of pain but the restoration of normal function.

I would like to emphasize two points in treatment—the necessity for the development of the muscles by proper exercises and for instruction in the correct method of walking. As regards the development of the muscles it seems to me that much better results are attained when attention is paid to the rotators of the thigh, as pointed out by Lowman. It is also absolutely essential that these patients be taught to walk, as all have lost the ability to use the feet properly. The integrity of the arch is in direct proportion to the propulsive power of the foot; if the fore part of the foot is not properly used in walking, the muscles naturally become gradually weaker and the arch flatter. Such patients should be taught the heel and toe walk, practically the army walk. If we can get them to use the fore foot correctly, they will improve rapidly.

Dr. J. Torrance Rugh, Philadelphia: In regard to the construction of many of the shoes used in the treatment of these conditions, I would say that the shoemaker and many of the physicians are disposed to rely on the leather in the shank for the immediate relief of these conditions. I agree thoroughly in regard to the ultimate relief of these conditions that we must rely on exercises judiciously administered to increase the support of the supporting structures, but until such strength can be secured in these muscles, we must give many of these patients who are forced to earn their living, some form of mechanical support and it is utter fallacy to rely upon leather for this support. In other words, the strong leather shank in a shoe will sag as soon as it becomes damp. I find it necessary to have introduced into the leather shank a steel shank of sufficient breadth and strength to give the patient the support necessary for relief. I find that such a shank introduced will often do away with the necessity of the Thomas heel and will lighten the shoe to a considerable extent. Furthermore, I find, as pointed out by Bradford and others, that the heel of the shoe must grasp the heel of the foot firmly, as when the heel of the foot is turned inward the front part of the foot will be held inward. Therefore I always have a shoe that will grasp the heel firmly. Give plenty of room for the free exercise of the musculature of that portion of the foot, support underneath by a steel shank and keep in mind above everything else that the plate, whether you use a Whitman or any of the commercial plates on the market, must be fitted to the foot and used only as a means of relief to the pain until such time as the patient has recovered sufficient strength in the muscles of the foot to hold the foot in the corrected position.

Dr. Silver: I said "practically the army walk," as I use the straight gait and not the everted position which Dr. Bradford condemns. Unless the patient learns to use the foot as a propulsive machine, the arch will necessarily remain weak. It does not matter so much what methods we employ, provided that we get the muscles to functionate normally without the use of an artificial support.

Dr. Willard, closing: There is just a point in speaking of the army style of walking. There has been some interesting discussion on this subject recently in the Army Commission. They emphasize walking with the heel and toe in Indian type. This is the style all children should be taught. I do not know of anything else that will invert foot so well. As Dr. Rugh said, it is absolutely necessary to have a rigid shank with a steel plate; further arch support is not often necessary. We can not rely on such a support alone, but we have got to get back the muscle support of the arch. We may use arch supports, stiffened shoes or tendon transplantation, yet the primary thing we have to fight for is to get the muscles of the internal side of the leg to take up their old work and not depend upon an outside agent to take up the work for the rest of that patient's life.

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The Medical Society of the State of Pennsylvania does not assume responsibility for any statements or opinions published in this Journal.

ATHENS, MARCH, 1913.

WOMAN'S MEDICAL COLLEGE OF PENNSYLVANIA.

The Woman's Medical College of Pennsylvania is the oldest medical college for women in the world. It was founded in 1850 by certain members of the Society of Friends who believed in equality of opportunity for men and women in the study of medicine, as in other fields of work.

Through strenuous opposition in the early days of its existence the college has pursued its way, overcoming one by one the barriers of prejudice which met the early graduates at every turn. Advancing in its standards and equipment as the medical standards of the state and the American Medical Association have advanced, the institution occupies a position in "Class A" of the American Medical Association rating of medical colleges. Its endowment of $338,000 is no longer adequate to enable the college to develop its laboratories and its hospital as the trend of modern medical education requires.

That there is to-day a demand for women physicians in certain well-defined lines of medical work can not be gainsaid. In public and private institutions for women and children, in schools and colleges for girls, the woman resident physician has found an assured and important position. The recognized capacity of women for detail work opens a wide field of opportunity in hospital and research laboratories.

To be sure, some of the foremost and well-endowed coeducational medical schools of the country now offer a medical education to women. To the corporators and friends of the Woman's Medical College, however, such opportunity does not offer adequate reason for failure to support in this country at least one medical school for women only. For men there is abundant opportunity for choice as to whether their medical studies shall be pursued in a coeducational institution or in a school for men only, and it seems, to the unprejudiced thinker, that an equal opportunity for women is reasonable and desirable.

We believe the appeal of the corporators of this pioneer institution for the interest and help of the medical profession and the public in raising an endowment fund of $1,000,000 for that institution is one to be listened to with much consideration. (See communication on page 444.) S.

THE "OPTOMETRIST," THE PHYSICIAN AND THE LEGISLATURE.

The Legislature of the great commonwealth of Pennsylvania has before it for consideration a bill creating a profession of "Optometrists." This bill is designed to secure to a chosen group of opticians the right to select and furnish glasses for the eyes of their patrons without the prescription of a trained physician but denies them the right to employ drugs. It also denies to opticians the right to select and furnish glasses unless they have first obtained a certificate of exemption from an examining board of five opticians, provided for in the bill.

To those best fitted by professional training and experience in the study and treatment of the affections of the eye, it is difficult to conceive of a more vicious type of special legislation. Viewed from the standpoint of the merchant and manufacturer under the specious plea of special training in optics, it paves the way for a favored few to secure a special privilege to manufacture and dispense glasses. It denies the privilege to opticians outside the ranks of the newly created profession of optometry unless, by any means at their command, they are able to secure the right through a certificate of exemption granted by a board of five men, doctors of optometry, who, when all is said, are their rivals and competitors in the business of selling glasses.

The more serious feature of the bill however is that it confers upon a group of individuals, who are able to pass a stipulated examination in optics, the right to invade what has come to be one of the most important special branches in the practice of medicine and surgery, whereas the wording of the bill plainly sets forth that no claim is made to a knowledge of the science or art of medicine in any of its branches. It should be understood by the members of our law-making body that the eye is much more than an optical instrument. In its highly organized structure, all of the tissues of the body are represented and these tissues are liable to all the misfortunes and diseases of like tissues elsewhere in the human organism. Many of the affections of the eye are obscure and require for their detection and treatment the trained senses of the physician or surgeon, educated in the entire field of medical science and art. It so happens that it is just these individuals with obscure maladies and incipient diseases of the eye, often if not always associated with systemic maladies of which the eye symptoms are a local expression, that are likely to imagine they need glasses or a change in their present glasses to restore their failing sight or to find relief from weak eyes or pain; as examples of these diseases may be cited diabetes, cataract, locomotor ataxia and arteriosclerosis, in all of which the very earliest manifestations are not infrequently in the eyes. The more intelligent members of the community seek the advice of their physician or oculist for relief, but there are large numbers of undiscriminating people who do not recognize the wide difference which obtains between the degree of doctor of medicine conferred by a university or medical college and the title of doctor of optometry sought for in this bill. They are likely therefore to seek the service of an optician unskilled in the intricacies of a learned profession, under the delusion that they are receiving professional advice.

These conclusions are based upon the experience of many men who have devoted their professional life to the study and treatment of affections of the eye. These men are daily confronted by patients who for long periods of time have been under the advice of optometrists, controlled by ignorance and their commercial instincts, buying and casting aside successive pairs of glasses, their vision meanwhile being steadily sapped by the progress of disease which in its incipiency or early stages was amenable to treatment. It is therefore hoped that the committee of the Legislature to whom this piece of vicious legislation has been referred for consideration will, as on two former occasions, decline its presentation to the House and Senate and so protect the community against its baneful influence.

S. D. R.

THE MONTGOMERY COUNTY MEDICAL BULLETIN.

There has come to our desk the first number of the *Montgomery County Medical Bulletin,* the official journal of the Montgomery County Medical Society, a monthly with sixteen pages, three of which are filled with advertisements. Dr. Howard F. Pyfer is editor and Drs. J. Newton Hunsberger and Willis Read Roberts are associate editors. Well, we have waited some time for a bulletin from Montgomery, and now our friend Doctor Carrell of the *Bucks County Medical Monthly* will have to look to his laurels. May we express the hope that after a whole year of most auspicious success it will not cease to visit our table as did a certain long-looked for bulletin somewhere near Wilkes-Barre, which after a year of noticeable success suddenly disappeared from view.

Since the above was in type there has come to us the first number of the *Crawford County Medical Society Bulletin* which is issued as "an experiment," the March meeting to decide whether it will be continued or not. It is sincerely hoped that this latest but not least interesting bulletin will be continued. S.

UNITED WE STAND; DIVIDED WE FALL.

The Medical Society of the State of Pennsylvania, anxious to secure as members all reputable physicians in the state, is offering to the component county societies the services of an organizer to canvass the counties for new members. Such organizer will work under the direction of the officers of the county societies, and it is hoped that all of our members will do anything that they can to facilitate the work. S.

Members Recently Deceased.

Allegheny County: Ferdinand Koeller (Karl Franzens Universitat, Gratz, Austria, '54) in Pittsburgh, March 2, aged 79.

Dauphin County: Isaac B. Sensenig (Bellevue Hosp. Med. Coll., New York, '69) in Harrisburg, February 5, from dropsy, aged 65.

Lackawanna County: Edith Barton (Woman's Med. Coll. of Pennsylvania, Philadelphia, '02) in Scranton, February 20, from heart disease.

Philadelphia County: Helen Paschall Proctor (Woman's Med. Coll. of Pennsylvania, Philadelphia, '05) in Philadelphia, January 23, from rupture of an ovarian cyst complicating labor, aged 41. Lewis W. Steinbach (Jefferson Med. Coll., Philadelphia, '80) in Philadelphia, February 10, from pneumonia, aged 61.

Schuylkill County: Edward Pius O'Donnell (Univ. of Pennsylvania, Philadelphia, '06) in Heckscherville, February 2, after a long illness, aged 34.

Union County: Isaac A. Fetterolf (Coll. of Phys. and Surgeons, Baltimore, '77) in West Milton, February 16, after a long illness, aged 68. S.

STATE NEWS ITEMS.

BORN.

To Dr. and Mrs. Harrison A. Dunn, Erie, February 6, a son.

To Dr. and Mrs. Austin C. Lynn, Osceola Mills, February 10, a daughter, Mary Margaret.

MARRIED.

Dr. T. S. Allison and Miss Marie Sober, both of Tarentum, February 6.

Dr. E. Bryan Kyle and Miss Florence L. Wilson, both of Philadelphia, recently.

Dr. Harry Z. Hibshman and Miss Charlotte E. Mathews, both of Philadelphia, February 19.

Dr. David Pollock McCune and Miss Lena Frances Walker, both of McKeesport, January 2.

Dr. Alfred W. Brinham, Scalp Level, and Miss Wilhelmina Meyer, Wellersburg, January 29.

Dr. Wilmer Clayton Dreibelbies, Mountain Top, and Miss Alice Fleeta Swymelar, West Philadelphia, February 4.

DIED.

Dr. Ezra H. Cary (Jefferson Med. Coll., '64) in Prosperity, March 9, aged 83.

Dr. Thomas S. Lloyd (Medico-Chirurgical Coll., Philadelphia, '01) in Shamokin, February 1, aged 34.

Dr. R. H. Miller (Jefferson Med. Coll.) formerly of Hamilton, Pa., in Santa Fe, New Mexico, February 18, aged 38.

Dr. Edgar C. Quimby (Cleveland Univ. of Med. and Surg., '81) in Titusville, January 22, from cancer of the liver, aged 56.

Dr. Kimmel Rauch (Eclectic Med. Institute, Cincinnati, '99) in Johnstown, February 11, from gangrene of the intestine a week after an operation for appendicitis, aged 40.

Dr. William Wormley (Jefferson Med. Coll., '83) formerly a practitioner of Lancaster, and later a druggist of Philadelphia, in Philadelphia, January 29, from pneumonia, aged 60.

COMMUNICATIONS.

WOMAN'S MEDICAL COLLEGE OF PENNSYLVANIA.

February 21, 1913.

To the Editor: May I ask you to find place in your columns for an announcement which is at the same time an appeal?

The Woman's Medical College of Pennsylvania is organizing a campaign for raising an endowment fund of $1,000,000 in order that it may be enabled to maintain its present high position among the medical colleges of the country. The present endowment of $338,000 is obviously, to those who have followed the steady advance in the standards of medical education, inadequate for the purpose.

As the oldest and now the only regular medical college for women alone, in the United States, we bespeak the interest and support of the medical profession and the public.

Yours very truly,

Clara Marshall,

Dean of the Woman's Medical College of Pennsylvania.

COMMERCIAL EXHIBIT AT PHILADELPHIA.

February 11, 1913.

Dr. William H. Cameron,
Medical Society of Pennsylvania,
4615 Forbes Street, Pittsburgh, Pa.

Dear Doctor Cameron: In reply to your circular letter of February 10, relative to commercial exhibit to be held under auspices of the Medical Society of the State of Pennsylvania and your request that we make such suggestions as we deem useful, there are some things which lead me to suggest a reform in the matter of these exhibits.

In the first place, pharmaceutical manufacturers of the highest class, putting out a type of products such as we are preparing, seriously object to exhibiting alongside of all conditions of firms and we believe it is time the medical societies of the states should exercise some discretion in inviting exhibitors, as they would in properly conducted medical journals. This with a view of excluding undesirable ones.

Second, they should see that a definite time is set apart for the whole society to visit these exhibits and it should be a part of the curriculum. In other words, these exhibits should be of such high class as would be instructive and beneficial to the medical profession and should be considered as a part of the educational advantage of a meeting. At the present time they are anything else but this. The medical associations apparently have never treated the exhibitors fairly in this respect. They invite them to exhibit, for which they charge exorbitant rates, with a view of paying the expenses of the meeting, and permit anybody and everybody to come in, depriving the exhibit of its value to the profession, and thereby causing it to be a matter of no interest.

In our judgment, this whole subject should be treated from a different standpoint, and not until it is treated from a different standpoint do we consider that the medical profession is handling the exhibitors fairly, nor are they putting themselves in the proper position by encouraging these indiscriminate exhibitors with the sole object of securing their money, without any efforts toward a helpful attitude.

We should like nothing better than to see our own state take advance steps to correct an abuse which has grown up in this matter of these exhibits, and the attitude of the medical profession towards this abuse.

Yours very truly,

February 28, 1913.

Dear Sir: Please accept my thanks for your letter of the 11th inst. in regard to the Commercial Exhibit of the Medical Society of the State of Pennsylvania. The suggestions you make in regard to this exhibit are in line with the policy we are trying to carry out, and I trust you will pardon me if I take the matter up at some length in order to acquaint you with the present status of the situation.

Two years ago the society created a department of "Annual Meeting and Commercial Exhibit," placed the same in charge of an officer of the society, and instructed him to bring the business end of the work up to the highest point of efficiency possible.

Upon taking up the work of this department, it soon became evident that "efficiency," in this connection, meant primarily the most convenient and suitable housing accommodations that could be secured for the members in which to hold scheduled meetings, and that this could only be accomplished by realizing the largest possible financial returns from the Commercial Exhibit.

It is very obvious, however, that the best financial returns can not be obtained unless the men upon whom we have to depend for the "financial returns" are given some equivalent for their money. In this connection, I have given considerable thought to methods by which the largest possible advertising, or financial, results can be secured for each and every exhibit we accept.

The first matter for consideration is the question of desirable exhibits. My instructions along this line are very explicit in some directions. The By-Laws of the society provide that "the Assistant Secretary may arrange for and direct a display of proper exhibits at the annual session and he shall be governed in the acceptance of exhibits in the commercial exhibition by the rules of the American Medical Association." Compliance with this provision last year necessitated the refusal of applications for space amounting to $400.

The question of permitting firms to exhibit who make a practice of putting out nonaccepted preparations along with their accepted products is a difficult one. Unless the society shall otherwise order I shall deem it proper to accept for the exhibit articles accepted by the Council on Pharmacy and Chemistry, articles which are official in the U. S. P. and N. F., nonproprietary mixtures of official substances, whether in pill, powder or liquid, and ordinary foods, along with books, instruments and medical and surgical appliances.

Of course, most large firms manufacture articles for sale to the public, such as talcum powders, etc., and articles of this nature, being nonmedicinal, do not concern us, and their sale should not bar a firm from our exhibit. On the other hand, where I know of a firm putting out nonethical medical preparations for sale to the public, or even manufacturing them for nonethical houses, they will be stricken from our list. Such action has already been taken this year with one large establishment. This is another point, however, which is difficult to control without having specific data.

Again, it is difficult to discover the true business reputation of a firm. Objection may be made along this line, but as long as a firm is ethical, and measures up to our requirements, it can not be disqualified without definite and specific information.

It is also true that exhibits may be accepted which have no real scientific value, and which are not, strictly speaking, of special interest to scientific men. These exhibits, however, have a distinct commercial interest to physicians and their families; they help to make up a well-rounded exhibit, keep up interest in a general way, and, as they are not accepted unless indorsed by responsible people, I think that we are justified in placing them. I have visited a number of medical commercial exhibits with this point under consideration, and have come to the conclusion that such exhibits help to hold the attention of the visitors, and are therefore of benefit to all those exhibiting.

I believe this about covers this phase of the Exhibit, and if you will be good enough to take up the matter from your point of view, and let me have the benefit of your experience along this line, I will be much obliged.

In regard to the second point, "They should see that a definite time is set aside for the whole society to visit these exhibits, and it should be a part of the curriculum."

Our society has grown so large, has so many sections, and there is so much scientific work to be accomplished, that this matter becomes a difficult problem, especially when it has been impossible to secure outside of Pittsburgh a building large enough to house the entire Commercial Exhibit and all the scientific meetings. Being in its infancy, the department has not had an opportunity to work out a definite policy, but I am sure when you learn what has been undertaken for the next annual session, you will feel that the Medical Society of the State of Pennsylvania has taken zealous steps in this direction, and that it is endeavoring to bring about a better comprehension by our members of their business friends with whom they have to deal.

In resolving this problem, the following points have been and must be kept in mind:—

1. Members and guests must be impressed with the fact that our Commercial Exhibit is something more than a trade show; that it is in reality an exhibit where they can observe with ease and convenience the advances made in the commercial end of the practice of medicine and surgery, and become better acquainted with the methods employed to this end, and that it will pay them in dollars and cents to take advantage of an annual clearing house for the purchase of books, instruments, drugs, appliances, etc. Even if they do not care to avail themselves of such an opportunity, they will learn to know what is best, and having seen and made comparisons, they will be better fitted to purchase intelligently when the need arises.

2. Our scientific meetings, and the annual session in general, must be made so attractive that our members will attend in large numbers.

3. The Commercial Exhibit must be made so inviting, so convenient, and hence so largely attended, that all ethical commercial houses will consider it the best "ad." medium they can possibly secure.

To return again to the first point, we hope to accomplish the ideas outlined therein, *first*, by publishing a description of each exhibit in the official program and in the JOURNAL; *second*, by establishing a department for news of the Annual Session and Commercial Exhibit in the JOURNAL; *third*, by assigning exhibitors a specific time during the session for special demonstrations, and in publishing a report of these demonstrations, and *fourth*, by reserving the hours from 12 to 2 each day of the session free from all scientific and social gatherings and make these hours a feature at the Commercial Exhibit.

Considering the second point further, the decision to hold the annual sessions in Philadelphia and Pittsburgh will mean a registration of from 1200 to 1800 physicians, not to mention our guests, and the accessibility of these cities and their ample hotel accommodations, together with the additional social features contemplated, and the numerous clinics and clinical material, should add materially to our always fine scientific program. As a consequence, members throughout the state will be offered about six days of postgraduate work, which they can not well afford to miss.

As to the third factor, the following plans have already been arranged: The usual care has been taken looking to the shipment, storage and delivery of goods intended for the Commercial Exhibit. Electricians carpenters and sign-writers will be ready on the ground, etc. One of the finest exhibit buildings in the country, Horticultural Hall (in Philadelphia), has been secured. All scientific and social features will be held either in this hall, or at the headquarters, the Bellevue-Stratford Hotel, a short distance away. In addition, the registration booth, the general offices of the session, the scientific exhibit, and the lounging and rest rooms will be located on the same floor as the Commercial Exhibit. Two general scientific meetings will be held in this building in the evening and one in the afternoon. The largest social meeting for men will also be held here. The hall will be open for exhibitors on Saturday, September 20, at 8:30 A.M., in order to allow ample time for preparation. The Commercial Exhibit will be open for business, and registration will begin

Monday, Setepmber 22, at 8:30 A.M. On Tuesday, Wednesday and Thursday the exhibit will open at 8:30 A.M., and will close at 10 P.M. each day. On Friday, the hall will be open for exhibitors to remove their goods. This will give them one full day more than it has been our custom to give heretofore. The excellent clinical and social features arranged by the Philadelphia County Medical Society for Monday and Friday, September 22 and 26 respectively, should insure a full attendance for the entire week.

Besides the plans outlined above, I am at work on several features which I hope will be of distinct benefit to exhibitors.

I shall be very glad to hear further from you, and will be much pleased to receive any practical suggestions that may occur to you.

With kind regards, I am,

Yours very truly,
William H. Cameron, Manager.

GUESTS AT ATLANTIC CITY.

At the end of the Philadelphia Session the members of the society who are the guests of the Philadelphia County Medical Society will be entertained by the hotelmen of Atlantic City, through the courtesy of Dr. William Edgar Darnall, of Atlantic City, for supper and bed, Saturday night, September 27, and Sunday breakfast, September 28. Further details will be announced later.

REVIEW.

MEDICAL MEN AND THE LAW. A Modern Treatise on the Legal Rights, Duties and Liabilities of Physicians and Surgeons. By Hugh Emmett Culbertson, Esq., member of the Ohio and New York Bars; Contributing Editor to many Legal Publications. Octavo, 325 pages. Cloth, $3.00 net. Lea and Febiger, Publishers, Philadelphia and New York, 1913.

This work deals with the duties, rights and liabilities of the professional man and the various healers toward the public as settled by law. The citations of court decisions are numerous and valuable. The Introduction occupies six pages; the chapter on Who May Practice Medicine and Surgery occupies thirty-four pages; that on Relation of Physician to Patient, thirteen; Compensation, thirty-seven; Malpractice or Negligence, eighty-eight; Criminal Liability of Physicians and Surgeons, thirty-seven; Exemptions of Physicians and Surgeons, three; Physicians and Surgeons as Witnesses, forty-two; Right to Protect Professional Reputation, nine; Validity of Contract Restricting Exercise of Profession, eleven; Wills, seven.

The book is full of valuable information and the following excerpt is well worth quoting:—

"*How to Defend a Malpractice Suit.* Where a medical man knows that he has performed his whole duty according to the best of his skill and knowledge, and according to the most approved teachings of his particular system, and he is unfortunate enough to become the defendant in a malpractice suit, he should never compromise or settle, for he owes it to himself and to his profession to vindicate himself before the world. He should employ at once the very best lawyer and put him in full possession of *all* the facts in his case; the withholding of such information has lost many a case, for it is just as impossible for an attorney to prepare his case when he has only been given part of the facts, or when the facts are highly colored, as it would be for a physician correctly to diagnosticate a case when the patient tells him only a part of his pains and troubles and his history. Having done this be sure to have for your witnesses, physicians who command the respect of both professions, men who are both honest and learned, for many a case has been lost by the sorry spectacle some witnesses make in the hands of a skillful cross-examiner. After securing your witnesses see to it that your attorney has ample opportunity to ascertain in detail what their testimony will be."

S.

MUSCLE TRAINING IN THE TREATMENT OF INFANTILE PARALYSIS. By Wilhelmine G. Wright, Boston Normal School of Gymnastics, 1905. Reprinted from *The Boston Medical and Surgical Journal*, Vol. CLXVII., No. 17, pp. 567-574. Oct. 24, 1912. W. M. Leonard, Publisher, 101 Tremont St., Boston, Mass. Price, Twenty-five Cents.

The demand for light upon this subject exhausted the file of the journal in which it was printed and led to a re-issue of the article in form of a thirty-two page reprint at the nominal price of twenty-five cents. The directions given are explicit and of great value in the treatment by exercise of conditions following paralysis.

L. F. P.

SOCIETIES.

WILLS HOSPITAL OPHTHALMIC SOCIETY.

Meeting of December 2, Dr. S. Lewis Ziegler, Chairman.

Dermoid at the Corneoscleral Margin. Dr. Burton Chance reported two cases which had been under Dr. Schwenk's and his own care. Tumors exhibited well-known characteristics and in Dr. Chance's case the mass was believed to have increased in size in the past few months. Tissues in each case contained hair within their well-formed follicles, and in Dr. Chance's there were sweat glands and marked proliferations of pigment, while the squamous epithelium covering showed evidences of horny condensation.

Recurrent Sarcoma of the Orbit. Dr. William Zentmayer exhibited a woman, seventy-four years of age, who had been operated upon for sarcoma of orbit by the late Dr. Norris in 1897. Growth originated in lacrymal gland and was found to be incapsulated. There was a recurrence in 1905 at the time she first came under Dr. Zentmayer's care. A large hemispherical mass occupied the outer, upper region of the orbit. Growth was enucleated and found to be only in part encapsulated. After wound had healed, ten x-ray treatments were given. One year later the tumor again began to grow, and in 1910 extended from the zygoma to the hairy scalp and almost the whole length of the supraorbital margin. Mass was removed, the globe enucleated and orbit eviscerated. Growth was found to invade the frontal sinus on other side. Clinical diagnosis was cylindroma. Pathological report by Dr. Goldberg was that the tumor was a small round sarcoma, nonpigmented but very vascular. Eyeball was unaffected, as was also the deeper orbital tissues. Superficial orbital tissues, the skin of face and eyelids were extensively infiltrated with the growth cells.

Patient returned October 7, 1912, stating that there was little evidence of recurrence until the first of the year, but since then it has been very rapid. Mass was of about the same dimension as in 1910. There was also a growth (probably epithelioma) below the inferior orbital margin. At operation the sarcoma was found to extend into the calvarium. Epithelioma was removed and wound covered by a Dieffenbach sliding flap. The other wound was allowed to granulate. Marked physical and mental impairment have followed operation.

Dr. Ziegler spoke of a case of recurrent sarcoma involving the ethmoid region, in which he had used Ewing's solution, followed later by applications of formalin one per cent., which entirely cleared up the sarcomatous mass with no recurrence for a year, after which he lost sight of patient.

Optic Atrophy Following a Blow over the Orbit. Dr. Charles R. Heed exhibited a patient with monocular optic atrophy. On October 11, 1912, patient received a severe blow on the upper orbital margin of left eye from the elbow of another man. Immediately following the injury he suffered severe ocular pain and some nausea for some hours. On the following morning he had but little pain, but was entirely blind in the injured eye. Examination, October 21, at Wills Hospital showed left eye to be blind and pupil inactive to light, but, aside from this and a slight subconjunctival ecchymosis, examination was negative, the fundus being healthy. On November 29, the optic disk showed decided atrophy with cupping. Dr. Heed regarded the case as one of probable rupture of optic nerve by fracture into optic canal.

Dr. Posey referred to a case of complete monocular blindness following an injury to the head, attended by full restoration of vision, which he had presented before the College of Physicians of Philadelphia in 1899. Subject of the blindness had received a hard blow over left eye by occiput of his child. Vision was unaffected until thirty hours later, when a veil seemed to drop before his eye and at the end of the fifth day total blindness supervened. There were no external signs, though the nerve head was somewhat pale. Leeches were applied to left temple, salines were freely administered, and a dram of mercurial ointment applied twice daily. At the expiration of three days, vision began to clear, and at end of about twenty days was completely restored.

Dr. Posey thinks that the comparative lateness after the injury with which the visual disturbance manifested itself indicated that the lesion must have been external to the nerve, for if the hemorrhage which caused blindness resulted from a rupture of one or more of the vessels of the sheath of the nerve, it is probable that the nerve would have been affected at once by the outpouring of blood, and vision would have been lowered almost immediately. Furthermore it does not seem likely that the lesion was due to a hemorrhage into the subdural space around the nerve (as in the postmortem findings of Priestly Smith referred to by Nettleship, as well as in a similar case cited by Silcox in which there were grave intracranial lesions which had originated the hemorrhages into the lymph spaces about the nerves), for there were no intracranial complications. When these factors are taken into consideration, it seems probable that the lesion which induces transient blindness after head injuries may be imputed to a fracture involving one of the bones of the orbit, and that it operates quite similarly to that which induces permanent blindness, the difference being only in extent and position of fracture.

As usually there are no means of distinguishing the cases capable of improvement in vision from those in which blindness will be permanent, it behooves us, in all instances of blindness after injury of the head, to use every method in our power to aid in the absorption of any hemorrhage or extravasation which may be compressing the nerve. Of course in cases in which there is actual laceration or complete compression of nerve, nothing will be gained, but it is probable that, in many instances where involvement is less serious, substantial results may be obtained by measures similar to those employed in the case just reported.

Dr. Ziegler said that many years ago he had seen, in the services of the late Drs. Harlan and Goodman, many cases of monocular optic atrophy due to saber wounds of the temple, which produced fractures of the orbit.

Ptosis. Dr. S. Lewis Ziegler exhibited a case of monocular ptosis in which he had performed the Dransart operation. This consists in attaching the upper margin of the tarsal cartilage to the occipitofrontalis muscle by means of sutures. Result of operation was very satisfactory.

Embolism of the Central Artery of the Retina. Dr. W. W. Watson reported a case in which the patient came to Dr. Posey's clinic at Howard Hospital complaining of the sensation of a foreign body in his right eye, which had come on suddenly the previous morning. That evening, patient noticed a marked diminution in vision in affected eye, together with an increase of pain when exposed to artificial light. Vision was reduced to fingers at four inches, although this was slightly improved by turning the head to the rignt. At time of his visit to the dispensary, the following afternoon, patient could distinguish only light and shade.

Externally the eye was negative, save for a dilated pupil caused by installation of a mydriatic by family physician. Ophthalmoscope revealed a distinct pallor of disk and of retina for about one d.d. from the disk. Macular region was pale, the macula itself showing as a cherry-red spot. Arteries were collapsed and veins full. No peripheral changes. Two days later the disk margins became very blurred and pallor of retina increased in extent. At this time the eye was totally blind. Family history was negative, as was personal history with exception of an attack of gonorrhea twelve years previously. Cardiac examination showed a myocarditis and a systolic blood pressure of 160 mm. Hg.

In view of the sudden onset with no prodromal obscurations of vision, Dr. Watson classified the case as an embolus and not a thrombus of the central artery of retina. He remarked that pathology of this condition is obscure and cause is questioned. It is contended by some that all cases are thrombotic and not embolic in origin, although postmortem evidence of embolism has been furnished by Graefe and others, notably Rubert, who claims his case of embolism proved postmortem is alone or with one exception the only one known.

Dr. Zentmayer said that some years ago in reporting a case of embolism of a cilioretinal vessel in a boy who had lost one eye from gonorrheal ophthalmia and later had suffered from gonorrheal synovitis and endocarditis, he had held that ophthalmoscopically the opacity in the retina, in obstruction to the central artery, did not seem to be in the nature of an edema, as it is so accurately limited to the area supplied by the obstructed vessel. This is also to be noted where there is a branch embolus. Where there is obstruction to the central artery in presence of a cilioretinal vessel, the part supplied by this vessel, although right in midst of opacity, retains its normal transparency. In looking the question up he found that Frost had concluded that opacity was due to a molecular death of the retina. Some years later Hancock took the same view, believing it to be an original thought. In Collins and Mayo's book, possibility of this view being correct is entertained.

Dr. Posey spoke of differential diagnosis between embolism of central artery of retina and thrombus of same vessel, and drew attention to repeated attacks of blindness which usually occurred in the later affection. While no doubt cases of embolism do occur, thrombosis is far more frequent. He cited a number of cases which had been preceded by transient attacks of blindness in affected eye which he had reported before the College of Physicians of Philadelphia in 1902, in some of which, loss of sight had been due to spasm of arterial walls. In this connection Dr. Posey recalled a case of Leber's where there were all the ophthalmoscopic signs of embolus in which the microscope failed later to reveal any evidence of either embolism or thrombosis, Leber attributing blindness and the pathologic findings to long-continued spasm, pure and simple. Dr. Posey said that prognosis in all cases of transient blindness should be most guarded; it would appear impossible to predict what the outcome by any one of them might be, whether blindness be due to spasm and be always transient, whether it be due to a forming embolism which finally destroys the sight by shutting off the blood supply entirely, or whether the same fatal result is attained as in the case reported by Leber, by long-continued spasm, without microscopic change in the vessel walls.

In view of the uncertainty regarding nature and outcome of these attacks, it is of greatest importance to prevent a recurrence of them, by combating any tendency towards endarteritis, as it is probable that spasm in walls of vessels is induced by such a process. It has long been a recognized fact that iridectomy, by causing dilatation of blood vessels, reduces intraocular pressure. This operation has accordingly been performed in a number of cases of transient monocular blindness with a view to preventing subsequent permanent blindness. Wagenmann would have it performed in every case of this nature. In view of uncertainty regarding cause and course of these cases, it does not seem proper to Dr. Posey to subject an eye, which may remain permanently healthy, to an operation which in a certain proportion of instances, no matter how skillfully performed, renders the eye useless for visual purposes. He would, however, insist upon a treatment and a regimen to combat arterial sclerosis. At time of attack, the value of nitrate of amyl has been proved, and gentle but active massage of eye should be essayed.

J. MILTON GRISCOM, Secretary.

PHILADELPHIA LARYNGOLOGICAL SOCIETY.

Stated meeting January 21, College of Physicians, Dr. Ross Hall Skillern in the Chair.

Some Practical Points in the Anatomy of the Tonsil with Lantern Demonstration. Dr. George Fetterolf: Since a true appreciation of the undesirability of a diseased tonsil has become more generally known, the necessity for a complete extirpation is becoming more realized as being desirable, except possibly in the old, in those with heart lesions, in those unable to take a general anesthetic, in those with chronic lacunar disease in which removal of portions of tonsil will open tonsil fossæ and diseased lacunæ.

Fundamentally the great desiderata in the tonsil operation are completeness and reasonable celerity, combined with safety during and after operation.

Dissections were made of hardened heads in the Laboratory of Anatomy of the University of Pennsylvania. From these preparations the following facts were elicited:—

1. The curve of the hard and soft palates was found to be continued regularly and practically uninterruptedly, not only backward to the posterior pharyngeal wall, but laterally downward to base of tongue. Careful exploration was necessary to determine definitely the position of anterior pillar, plica triangularis, tonsil and posterior pillar.

2. Instead of standing out sharply into mouth, the anterior faucial pillar is lost in the lateral wall. Its identification was possible only at its lower part, by a very slight semicylindrical elevation. The conclusion is that when the mouth is closed the anterior pillar is buried for the most part in the lateral wall. Only when the mouth is opened and tongue depressed does it project inward as a more or less sharp edge.

3. In the hardened head the palatoglossus is found to be of the form of a three-sided prism, the base faces into mouth, the anterolateral sac abuts aganist tissue of soft palate, and the posterolateral side is in contact with and covers anterior part of capsule of tonsil. Apex lies in the sulcus formed at anterior margin of tonsil.

4. The plica triangularis in the cadaver is usually readily identified, especially at its posterior edge where the difference between its smooth mucosa and the lacuna-studded surface of the tonsil is marked. It varies greatly in size. Of its three sides the anterior is attached apparently to anterior pillar, the posterior runs downward and backward over tonsil, or, in case of a small tonsil and a large fossa, fades away in lower part of tonsillar recess.

The plica triangularis is fundamentally that portion of the capsule which extends inward and backward beyond the anterior pillar of the fauces. It may consist of two layers if it is attached throughout to the tonsil, and either three or four, if it is free. In case of two, they are, from the surface inward, mucous membrane and fibrous tissue; in case of three, mucous membrane, fibrous tissue, and mucous membrane; in case of four, mucous membrane, fibrous tissue, lymphoid tissue and mucous membrane. Where the mucosa passes directly from inner edge of plica to tonsil, the latter frequently is called adherent, a better name being "attached plica" and "free plica." Real difference is presence or absence of a large crypt.

5. The tonsil is a mass of lymphoid tissue, situated in tonsil recess. Its shape approaches that of a Brazil nut, with an antero-internal, a lateral, and a posterior surface, well separated from each other by definite angles. The antero-internal surface presents itself toward pharynx and anterior pillar. Lateral surface lies in practically the sagittal plane of the body, and is slightly convex. Posterior surface extends inward from the right angle formed at its junction with the lateral.

6. The upper pole is trifaceted and is buried

beneath palatoglossus muscle at its junction with the palatopharyngeus. The lower pole extends downward, narrowing like the base of a flower petal, and becomes continuous with lingual tonsil or fades away on tongue anterior to attachment of epiglottis.

7. As regards the entrance of arteries into the tonsil: (*a*) anterior tonsillar artery courses up between mucous and fibrous layers of plica, and breaks up into branches which pierce fibrous layer to enter tonsil substance. It is a branch of dorsalis linguæ. (*b*) Superior tonsillar artery enters lateral aspect of upper pole and is a branch of descending palatine. (*c*) Posterior tonsillar artery is a small vessel coming forward through palatopharyngeus muscle and entering tonsil at angle between lateral and posterior surfaces. It is a branch of ascending pharyngeal. (*d*) One inferior tonsillar artery runs up the anterior margin, entering well below the equator; it is a branch of the dorsalis linguæ. A second runs up middle of outer surface between capsule and fossa wall, entering tonsil a short distance above the equator. A third enters middle of outer surface down near dorsum of tongue. Two last-mentioned are largest arteries entering tonsil, and are offshoots of tonsillar branch of facial.

8. Veins of tonsillar plexus lie in wall of recess. They start near upper pole of tonsil, and run downward along outer edge of palatopharyngeus muscle. They are joined by some small veins from epiglottis and some larger ones from base of tongue to form a larger trunk which pierces the superior constrictor at the outer margin of the palatopharyngeus muscle.

9. Posterior faucial pillar is fundamentally the palatopharyngeus muscle with mucous membrane covering that portion of it which projects mesially beyond the tonsil and its capsule.

All tissue that is diseased or likely to become diseased should be removed. Plane of operation should be between capsule of tonsil and wall of tonsil recess. First step should be entrance into proper tissue plane, then every endeavor should be made to remain there. Bluntest possible instruments should be used, and sharp ones avoided. Upper lobe is most difficult portion to dislodge and should be made certain of as early as possible. Portion first to be attacked should be that having minimum of direct blood supply. Anterior and upper portions meet this requirement, as main vessels enter below the equator. Vessels entering and leaving the tonsil are bound to be severed, and should be divided by method best calculated to promote quick clotting, namely, divulsion of some blunt separator. Care must be taken to avoid lacerating wall of tonsil recess, for (*a*) therein lies the tonsillar venous plexus, injury to which is the most common cause of serious hemorrhage; (*b*) lacerating of palatal muscle will cause formation of cicatrices, with interference with normal phonatory movements. To avoid lacerating muscles lining recess, loosening of tonsil should be done in lines parallel with muscle fibers. In lateral wall the superior constrictor lies horizontally, and in posterior wall the palatopharyngeus fibers run vertically. Therefore, lateral aspect of tonsil should be freed by horizontal movements, and posterior aspect by vertical.

The "dangerous area" is posterior wall of tonsil recess, owing to situation there of largest vein of tonsillar plexus. Main vessels of tonsil enter its base, and stump should be severed by an instrument best calculated to close divided vessels; namely, the snare. Possibility of patient being a hemophiliac should always be considered. Serious postoperative hemorrhage is usually caused by injury of tonsillar or pharyngeal venous plexus, which can be avoided by using dull instruments; leaving a fragment of tonsil tissue in place; and failing to remove capsule. Last two conditions cause this effect by holding open and preventing collapse of tonsil recess, for after capsule is removed ends of vessels all lie in soft muscle tissue, in which they can easily contract and retract. Enucleation with prohibition laid on all sharp instruments would seem to be safest as well as most effective method of operating.

Dr. E. B. Gleason, in discussing: As far as anatomy is concerned, we are working in a conquered territory, and it remains for us to perfect technic. What we have accomplished has not been without a considerable loss of life, principally from hemorrhage, but deaths have occurred from shock. Arterial hemorrhage is an emergency we are prepared for. Venous hemorrhage is more severe. Thus far I have had no serious hemorrhage; in one case, operated on by my assistant, hemorrhage was alarming, as if internal jugular had been cut; controlled after prolonged digital compression. Operate quickly, with as little trauma as possible. Sharp instrument is best, incise with sickle-shaped knife and complete dissection with Hurd's enucleator. Snare quickly rather than by slow screwing process. Keep close to capsule, avoiding veins, and there will be no severe hemorrhage. Referring to voice and especially the singing voice following a tonsillectomy, the mouth and pharynx is a resonant cavity; enlarge this cavity, at least one third to one half, as you will after complete enucleation, and result may read disaster. Singers would suggest removal of tonsils piece meal, so as not to interfere with integrity of voice.

Dr. Fielding O. Lewis: In an operation we have performed between 300 and 400 times at Jefferson Hospital, with no operative and but one postoperative hemorrhage, tonsils are removed rapidly, thoroughly, and with very little bleeding. Grasp tonsil with tenaculum forceps; with sharp bistoury make semicircular incision half through tonsil, avoiding pillars, then with tenaculum evert, and capsule will be found puckered in posterior part of tonsil; no danger of buttonholing pillars; no adhesions; can be performed under local anesthesia.

Dr. G. Hudson-Makuen: I have observed a mutilated palate, result of tonsil operation, and am now collecting pictures of such deformities. The neatest operation I have ever seen was performed by Dr. Ingersoll of Cleveland; his is similar to Dr. Fetterolf's dissection. Technic of my operation is as follows: With Sluder blunt knife, engage and press ring over tonsil and capsule; push knife down; raise up; put on snare and remove. This operation is performed with very little injury.

Dr. E. L. Vansant: Adhesions are a modification of plica. Would call attention to danger of injuring complicated plexus of veins at bottom of tonsil in deep finger dissection. Some operators prefer sharp instruments, with them there is less damage to tissues. When used they should hug the tonsil. Blunt instruments do more tearing, but are much safer and should be advocated. Operation of cutting into tonsil as described by Dr. Lewis is very similar to the Leslie Davis operation. It is a good operation and usually there is little hemorrhage, but on one occasion, I am aware of, hemorrhage was profuse.

Dr. James A. Babbitt: Finger dissection is mutilating and followed by more bleeding. Instruments used for dissection are long tenaculum forceps, and Allis' dissector. Dissection should be carried well forward, leaving thin edge of mucous membrane; carry snare well around and slowly complete enucleation. I do not approve of rapid method.

Dr. Penn G. Skillern, Jr.: Dr. Skillern refers to case I recently reported of anomalous internal carotid. Had an S-shaped bend within an inch of tonsil. Six or eight cases in literature, one a case of Dr. Fetterolf's in private operation. From standpoint of general surgeon, technic is similar to removal of a fibroma in any part of the body; question of personal equation and best results are based on anatomical studies. From Dr. Fetterolf's work we obtain correct anatomical knowledge; conclusions based on studies of softened bodies are untrustworthy. Sometimes the ascending palatine branch of facial is enlarged.

Dr. Ross Hall Skillern: Immediate after results should be reported, say in one or two weeks. Complete enucleation was performed on my daughter, aged four; directly following operation, milk which was swallowed came out through the nose. There was nasal twang which wore away after three or four weeks. Not positive if voice has been impaired, but operation was imperative.

Dr. G. W. Mackenzie: I have met with two cases in my own experience, where the palate following tonsil operation was lower on one side than the other, particularly noticeable during phonation of the letter *a* or *e*. Condition remained for some time and then cleared up. I believe it to be due to injury of nerve supply to levator palatine, the result of undue traumatism. I can understand too that in such cases patient may suffer interference with voice, giving rise to so-called nasal twang. I have tried various methods suggested by others with varying success. At present I practice incision of mucous membrane along line between anterior pillar and plica; next, dissection with the Killian septal raspatory (a practically dull instrument). After as thorough a separation as possible operation is completed with a snare. Anatomists do not agree in anatomy of certain parts; for instance, Toldt, Zuckerkandt and Spalteholz differ in their description of blood supply to tonsil. Tandler teaches that seven tenths of blood supply to tonsil comes from tonsillar branch of the facial, which can be distinctly felt near angle of jaw, and that compression of it would control proportionately hemorrhage from tonsil; my personal experience has not been corroborative.

Dr. G. M. Coates: Dr. Gleason speaks of conquered territory It may be for some, but not for others. In our hospitals we see all sorts of deformities and ofttimes much of tonsil is left in. We usually practice dissection method. Tonsil is everted into tonsillotome when rapid operation is decided upon, blunt

Allis dissector is used; sometimes cut into capsule with knife or tonsil dissector; do not use tongue depressor. One cause of hemorrhage was not mentioned, the clotting time may be deficient, general oozing in such cases.

Dr. G. B. Wood: Dr. Fetterolf's way of approaching the capsule is by far the easiest and most accurate plan. To understand plica triangularis we must recall development of tonsils according to Kollmann and Bickle. First sign of faucial tonsil is an invagination of epithelium in region of second pharyngeal pouch. The anterior lip of this slit-like invagination forms plica trangularis, as tonsillar anlage itself develops at bottom of depression, and growing is always covered by mucous membrane of this anterior lip until it reaches a size sufficient to push itself more or less prominently out into pharynx. The plica, therefore, is simply a layer of mucous membrane covering front part of tonsil and does not include lymphatic structure which in this region is always a part of tonsil itself and is separated from plica by its capsule.

Dr. Fetterolf, closing: There is no more shock in finger operation than in any other. Dr. Vansant refers to large plexus of veins: this venous network was described, never more than two instruments are used at a time, and often but one. In one case there was regurgitation of food for a short time.

Frederic M. Strouse, Reporter.

COUNTY SOCIETY REPORTS.

ALLEGHENY—January.

The meeting of the Allegheny County Medical Society was held, January 21, with Dr. J. W. Boyce, the new president, in the chair. The annual election, held January 14, was remarkable because of the large attendance and the closeness of the vote. Over five hundred voted and the winning ticket, headed by Dr. J. W. Boyce, won out by a majority of twenty-six. Everything passed off pleasautly enough, and there is no reason to believe the society will not prosper during the year.

Dr. S. George reported a case of cerebellar tumor with a complete account of the clinical history and the autopsy findings. The splendid manner in which this case was worked up showed how valuable clinical material may be when suitably presented, and it is to be regretted that, from the abundance of material at hand, more such reports are not given. This particular case showed, as the most prominent symptoms, headache, staggering gait, Romberg's sign, Argyll-Robertson pupil, and absent knee-jerks. The headache was severe, the gait was not typical of tabes, the eye grounds, the spinal fluid, and the Noguchi were all negative. A diagnosis of tumor of the brain was not made. The patient unexpectedly contracted pneumonia and died, and at the autopsy a large cerebellar tumor about the size of an egg, was found. The tumor was attached to the membrane, and except for pressure on the cerebellum, was entirely free from it. Microscopic section showed the growth to be a fibroma.

Dr. Diller, in discussion said that he had seen the case with Dr. George, and was at that time unable to make a positive diagnosis. The fact that a tumor was found would teach us to be careful not to expect too many symptoms. The absence of vomiting, and especially optic neuritis, two important and cardinal symptoms, had confused the diagnosis.

Dr. C. L. Dana said the case was unusually interesting He remembered a similar case reported some years ago by Dr. Mary Jacobi of New York. At that time the absence of certain symptom was explained by the fact that the tumor, as in this case, was a fibroma, and presumably through its slow growth over years had permitted the brain to accommodate itself to it.

The society had the honor of having as its guest of the evening Dr. Charles L. Dana, the distinguished neurologist of New York. Dr. Dana's address was on "Some Present Day Methods in Surgical and Medical Neurology," a subject showing well his own interest in the pioneer work being done in these fields, especially under the auspices of the New York Neurological Institute. Prefacing his remarks, Dr. Dana spoke of the necessity of earnest, competent, and concentrated work in neurology and psychiatry which can be best furthered by the establishment of properly equipped psychopathic and neurological wards in general hospitals. Several cities have such hospitals, notably Boston, New York, Chicago, Cincinnati, and Pittsburgh, and more are needed. Such wards can be fitted up at a cost of $25,000.

Speaking of operative procedures on the skull, Dr. Dana said operations can now be done with reasonable safety for the purpose of decompression, explorations and removal of tumors. Decompression is best done over the temporal region on the right side, and then on the left side if necessary, but never on the left side first because of the danger of producing aphasia. Decompressions for tumors below the tentorium are done over the right or left cerebellum. There is no danger in making the opening too large. In acute surgery, as in the head injuries of accidents, there is much material at hand but allowed to go to waste because of the lack of interest in such cases by the general surgeons. Following the work of Cushing, more good work could be done by properly qualified men. Dr. Dana then spoke of one remarkable operation being done for the relief of hydrocephalic conditions. This consists of draining the cerebrospinal fluid by puncture into the ventricle through the corpus callosum. It is not curative, of course, but relieves headache and may save the eyesight.

Operations on the spinal cord represent especially the advance in neurological surgery. The operation is essentially a laminectomy on one or both sides and at least six laminæ should be removed. Tumors have been successfully removed; the cavities in cases of syringomyelia have been drained with surprising results; and operations on the posterior roots for the relief of pain and spasticity have had some success. Attempts recently have been made to correct hemiplegias by anastomoses of the sound side with the impaired, through the nerves of the cauda equina.

From the diagnostic side Dr. Dana spoke of the value of the so-called "four reactions" in the examination of the blood and spinal fluid, these reactions referring to the blood Wassermann, spinal fluid Wassermann, the globulin reaction, and the cell count. All four are present most often in paresis. Usually the cell count in cerebrospinal syphilis is high, over 100 and even up to 1000. This fact may be of value in helping to differentiate paresis from cerebrospinal syphilis, although Dr. Dana has been of the opinion for some time that it is very often impossible to distinguish these, one from the other. Patients with the usual clinical and physical signs of paresis and relegated to institutions to die have on autopsy showed only the signs of lues. We all, therefore, should be careful not to label patients with paresis and thus fail to give them every possible chance of treatment.

In the field of medical neurology Dr. Dana spoke briefly of psychoanalysis and the Freud theories, neither of which has been received with especial favor in New York. Some apparently brilliant results have been obtained, but the method is manifestly tedious and suitable only to certain patients and perhaps certain physicians. A really satisfactory psychoanalysis is possible only in individuals of high order of intelligence. The harm that may be done was briefly alluded to. Psychotherapeutics as practiced by capable physicians still has its place, and each man has his own method. The field of medical neurology, in spite of the restrictions put upon it by the internists, is sufficiently large for the careful, properly trained neurologist, and there is a definite need of such men in all large communities. Modern neurology is highly specialized, and the future is bright for those properly equipped.

Drs. Diller and McKennan spoke a few words in discussion. As Dr. Dana's paper treated only of general subjects and of advanced operative procedures possible at present in New York, with the unrivaled facilities of the Neurological Institute, comments on detail were not in order. In expressing their pleasure in listening to Dr. Dana's address Dr. Diller and Dr. McKennan fully voiced the feeling of the society.

GEORGE J. WRIGHT, Reporter.

COLUMBIA—FEBRUARY.

The Columbia County Medical Society met February 13, at the Morton House, Berwick, with fifteen members and visitors present. Dr. J. Sanderson Lazarus, a graduate of the Jefferson Medical College Philadelphia, March, 1868, was elected to membership. The doctor has not been in active practice since 1892, but will make an active and useful member of our society; he was most cordially welcomed by all.

Dr. B. F. Gardner of Bloomsburg, spoke on "Surgical Experiences upon Battlefields." Having been a surgeon in the Confederate army from 1862 to the close of the Civil War, he came before the society especially well prepared to handle his subject. He gave in detail many thrilling experiences, including four months in which he was a captive of the Federal government, during which period he was appointed to take charge of his fellow prisoners in the hospital. The talk was greatly enjoyed and by request the subject will be continued at another meeting.

"Acute Bronchitis in Children" was the subject of an up-to-date paper presented practically by Dr. R. E. Warntz, which elicited a thorough discussion.

L. B. KLINE, Reporter

CUMBERLAND—JANUARY

The annual meeting of the Cumberland County Medical Society was held January 14, at the

Tuberculosis Dispensary in Carlisle when officers for the ensuing year were elected.

Dr. Charles D. Dietterich of Mt. Holly Springs was elected a member of the society. It was decided to join with the Medical Club of Carlisle in holding a public meeting on Tuberculosis, during the month of February. Dr. Thomas H. A. Stites, chief of the Tuberculosis Dispensary, entertained the society with a talk on the "Humorous Side of Public Health Work," illustrating with lantern slides.

Dr. Harvey B. Bashore, retiring president, read the annual address on the "New Hygiene."

After the meeting Dr. Bashore entertained the members of the society at supper.

E. R. PLANK, Reporter.

DAUPHIN—FEBRUARY.

Dauphin County Medical Society held its meeting in the Academy of Medicine Building on February 4. Routine business was transacted, and a committee was appointed to draw up fitting resolutions on the death of the late Dr. Ziegler of Steelton. A motion was made and unanimously carried that the Dauphin County delegates to the coming session of the state society be instructed to nominate Dr. J. W. Ellenberger of Harrisburg as the next president.

"Medical and Business Ethics" was presented by Dr. Thomas S. Blair. After tracing the history of ethics he pointed out how medicine and business are allied for the good of the people. Medicine should be nationalized just as it has been internationalized. The question of subsidized medicine as it exists at present in England was taken up, and its effect on the practitioner pointed out and discussed.

NORMAN B. SHEPLER, Reporter.

ELK—JANUARY.

The annual meeting of the Elk County Medical Society was held at Ridgway, January 9, with dinner at the New Hyde. Officers were elected for the ensuing year. A paper on "Spinal Anesthesia, was read by Dr. Donaldson of Williamsport, who reported his year's experience, explaining the technic in detail and defining its limited sphere of usefulness. The paper was discussed by Drs. Free, Kane, Waterworth, and McAllister. An address on "Goiter," was given by Dr. Waterworth of Clearfield, which elicited a lively discussion.

S. G. LOGAN, Reporter.

LACKAWANNA—FEBRUARY.

At the meeting of the Lackawanna County Medical Society, February 4, Dr. Lewis H. Taylor of Wilkes-Barre, president of the state society, was the guest of the evening and gave a talk on "The Proposed Work of the State Society for the Year 1913."

Dr. Taylor pointed out that each year the state society should strive to show some improvement in its meetings and urged his hearers to make it a point to attend the Philadelphia Session and by their attendance show their interest. The Committee on Public Policy and Legislation has already held two sessions and are now actively at work on bills to be presented at the present session of the legislature. Among those of the most importance are "The Act Regulating Practice," "The Act Regulating Midwifery," and "The Act Defining Hospitals and Dispensaries." Philadelphia is noted for its hospitality and the Committee on Scientific Work is already at work preparing plans for the entertainment of the session. It is hoped to have more of the popular meetings that characterized the Scranton Session and made it so helpful. Dr. Taylor urged upon the members the attendance at county society meetings, more individual work along scientific lines and a preparation of that work into papers to be read before the state society. It is a fact that good papers from the hands of the general practitioner are much desired at these meetings.

A general discussion of the work both state and local was entered into at the close of Dr. Taylor's address and we are thankful to record a healthy upward trend of things.

H. W. ALBERTSON, Reporter.

MONTGOMERY—JANUARY.

The meeting of the Montgomery County Medical Society was held, January 22, at Charity Hospital and was in the form of a clinic. Dr. C. J. Swalm of the State Hospital demonstrated gross specimens of heart lesions. One heart shown had a large needle penetrating the left ventricle, which had been there for months with no symptoms and was found at autopsy. Dr. J. K. Weaver presented a case of tubercular peritonitis which had been operated upon several times. Dr. H. F. Pyfer showed a case of phlyctenular keratitis complicated with psoriasis. Dr. J. L. Eisenberg demonstrated the treatment of typhoid fever and presented two cases. Dr. H. C. Welker presented four uterine tumors, giving history of patients and technic of operation. Dr. E. S. Buyers demonstrated staining the tubercle bacilli. From the success of this clinic it was decided to hold more of them. EDGAR S. BUYERS, Reporter.

OFFICIAL TRANSACTIONS.

The Medical Society of the State of Pennsylvania.

Officers and Members of the Sixty-three Component County Societies.

Total Membership 5971.

ADAMS COUNTY SOCIETY.

(Organized August 25, 1904.)

President...James P. Dalbey, Gettysburg.
V. Pres.....D. LeRoy Merriman, Arendtsville.
Nicholas C. Trout, Fairfield.
Sec., Treas.
and Rept....Henry Stewart, Gettysburg.
Censors.....R. B. Elderdice, McKnightstown.
Tempest C. Miller, Abbottstown.
Nicholas C. Trout, Fairfield.
Com. on Pub.
Policy and
Legislation..Henry Stewart, Gettysburg.
R. B. Elderdice, McKnightstown.
Harry E. Gettier, Littlestown.

Stated meetings the second Tuesday in each month at 2 P.M. in Gettysburg or other places as may be determined by vote of the society. Election of officers in January.

MEMBERS (19).

Cashman, Elmer W., York Springs.
Dalbey, James P., Gettysburg.
Dickson, John R., Gettysburg.
Elderdice, Robert B., McKnightstown.
Elgin, Eugene, East Berlin.
Gettier, Harry E., Littlestown.
Glenn, James E., Fairfield.
Hartman, Harry M., Gettysburg.
Lau, Robert E., East Berlin.
Lindaman, Rice H., Bonneauville.
Merriman, D. LeRoy, Arendtsville.
Miller, Tempest C., Abbottstown.
O'Neal, Walter H., Gettysburg.
Sheetz, J. Lawrence, New Oxford.
Spotz, G. Emanuel, 202 Carlisle Ave., York (York Co.).
Stewart, Henry, Gettysburg.
Trout, Nicholas C., Fairfield.
Wolff, William E., Arendtsville.
Woomer, Albert, Cashtown.

ALLEGHENY COUNTY SOCIETY.

(Organized April 20, 1865. Incorporated January 30, 1892.)

(Pittsburgh is the post office when the street address only is given.)

President...John W. Boyce, Empire Bldg.
V. Pres.....E. G. Matson, Bureau of Health.
William C. Wallace, Ingram.
Elizabeth Martin, 329 S.Dallas Ave.
Joseph W. Beyer, Aspinwall.
Rec. Sec....S. A. Chalfant, 918 West. Bldg.
Cor. Sec....I. L. Ohlman, 8122 Jenkins Arcade Building.
Treasurer...W. B. Ewing, Westinghouse Bldg.
Reporter....George J. Wright, 4617 Center Ave.
Censors.....O.C. Gaub, Chairman, Keenan Bldg.
John W. Boyce, Empire Building.
J. D. Singley, 812 N. Highland Ave.
Com. on Pub.
Policy and
Legislation..J. A. Hawkins, Ch., Keenan Bldg.
Ed. Com....J. H. Collins, Ch., 308 Collins Ave.
Prog. Com..A.A.MacLachlan,Ch., Empire Bldg.
Memb. Com.E.E.Wible,Ch.,Diamond Bank Bldg.
Nec. Com...C. C. Hersman, Ch., 2228 Carson St., S. S.
Milk Com..O.M.Edwards,Jr.,Ch.,5607 Fifth Ave.
Board of Pub.
Instruction.W. H. Mercur, Ch., Fifth Ave. and St. James St.
Com. on Pub.
Health
Education..Elizabeth Martin, Chairman, 329 S. Dallas Ave.
Com. on Branch
Organization.A.W. Colcord, Chairman, Clairton.

Regular business and scientific meetings at Dispensary Hall, 43 Fernando St., third Tuesday of January, February, March, April, May, June, October, November and December, at 8 P.M. Annual meeting, second Tuesday of January at 8:30 P.M.

CHARTIERS VALLEY BRANCH.

Chairman..W. Frederick, Chartiers Ave., W.E.
Clerk......J. Donald Iams, Chartiers Ave., Sheridanville.

Meets in the I. O. O. F. Hall, Sheridanville, first Thursday of each month at 9 P.M.

ALLEGHENY VALLEY BRANCH.

Chairman..William A. Arnold, Tarentum.
Clerk......Frederick Wohlwendt, Tarentum.

OHIO VALLEY ACADEMY OF MEDICINE BRANCH.

Chairman..John C. Welch, Bellevue.
Clerk......R. L. Hill, Cleveland Ave., Bellevue.

MEMBERS (855).

Aaron, Charles I., 2847 Wylie Ave.
Albrecht, Nicholas, 82 South Twelfth St.
Alcorn, J. Frank, 511 Rosedale St., Wilkinsburg.
Alexander, I. Hope, Jenkins Building.
Allen, Charles W., Allegheny City Home, Hoboken.
Allen, James F., 1320 Boyle St., Allegheny.
Allison, Clarence S., Ingomar.
Allison, Robert W., 808 Wood St., Wilkinsburg.
Allison, Thomas B., Tarentum.
Allison, Viola Z., 100 W. Seventh St., Tarentum.
Allyn, George W., 504 Empire Building.
Alter, Joseph G., New Kensington (Westm.Co.).
Anderson, Clyde O., 7043 Frankstown Ave.
Anderson, George C., 1504 Lincoln Ave.
Anderson, James M., 1304 Wood St.
Anderson, J. Harry, 168 Robinson St.
Anderson, J. Hartley, Keenan Building.
Anderson, Joseph W., 209 North Craig St.
Anderson, Thomas S., Jenkins Building.
Ankrim, Louis F., 5014 Penn Ave.
Apgar, Charles S., 7508 Hamilton Ave.
Arbuthnot, Thomas S., Fifth and Putnam Aves.
Arn, Gottfried, 306 North Ave., Allegheny.
Arnold, Charles A., 156 McClure Ave.,Allegheny.
Arnold, William A., Tarentum.
Arthur, Herbert Spencer, 413 Shaw Ave., McKeesport.
Asdale, Joseph Wallace, Patterson Heights, Beaver Falls (Beaver Co.).
Ashe, Henry P., 1304 Colwell St.

Atkinson, Daniel A., 602 Oakwood Ave., Westview.
Aufhammer, Charles H., 7103 Penn Ave.
Ayres, Samuel, Westinghouse Building.
Baalith, George R., 1009 Wylie Ave.
Bachman, Milton H., 202 Masonic Temple, McKeesport.
Bair, Chas. Homer, 347 Eighth St., Homestead.
Bair, George E., Braddock.
Baird, Joseph A., 924 Highland Building.
Baker, Theodore, Jenkins Bldg.
Baldwin, Marcus E., Keenan Building.
Ballagi, John, 438 Fifth Ave., Homestead.
Barach, Joseph H., 4502 Fifth Ave.
Barchfeld, Andrew J., 106 S. Eighteenth St.
Barndollar, William P., Westinghouse Bldg.
Barnhardt, Harry A., 410 Brushton Ave.
Barnhart, Henry B., 315 Helen St., McKees Rocks.
Barr, Andrew M., 5200 Butler St.
Barr, John A., McKees Rocks.
Barrett, Thomas McS., Dixmont.
Bartilson, Benjamin M., 836 Braddock Ave., Braddock.
Batten, John M., Downingtown (Chester Co.).
Beach, William M., Bessemer Building.
Beane, G. Walter, 317 Chartiers Ave., McKees Rocks.
Bearer, Albert J.,New Kensington (Westm.Co.).
Beers, Franklin E., Universal.
Beggs, David B., 770 Penn Ave., Wilkinsburg.
Behan, Richard J., 627 Homewood Ave.
Bennett, Newman H., 173 Knox Ave., Mt.Oliver.
Bennett, Oliver J., 680 Preble Ave., Allegheny.
Benz, Henry J., 216 Virginia Ave., Mt. Washington Sta.
Berg, Gustav F., 858 Liberty St., Allegheny.
Bernatz, Clarence F., 1105 Park Building.
Bernstein, Hyman, 1227 Wylie Ave.
Beswick, George L., Wilmerding.
Bever, Joseph Walter, Aspinwall.
Billings, Frederic Tremaine, 4524 Fifth Ave.
Bixler, Lewis C., Highland Building.
Black, Jesse L., 65 Washington Ave., 31st Ward.
Blackburn, James P.,313 Penny St.,McKeesport.
Blair, Alexander C., Empire Building.
Blair, Esther L., Dixmont.
Blair, William W., Diamond Bank Building.
Bloomberg, Senior, 1614 Center Ave.
Blume, Frederick, Jenkins Building.
Bode, William C., 2005 Carson St.
Boggs, Russell Herbert, Empire Building.
Booher, James M., 2036 Monongahela Ave., Swissvale.
Booth, Bradford A., Bureau of Health.
Botkin, Lester H., 39 Duquesne Ave., Duquesne.
Botkin, Louis C., 27 Prospect St., Ingram.
Boucek, Anthony J., 624 Chestnut St.,Allegheny.
Boucek, Charles F., 624 Chestnut St., Allegheny.
Boucek, Francis C., 1510 Franklin St., N.S.
Boyce, David C., 846 Western Ave., Allegheny.
Boyce, John W., Empire Building.
Boyd, David Hartin, 2345 Perrysville Ave., N.S.
Boyd, John A., 25 Wabash Ave.
Braden, Frank R., 1616 State St., Coraopolis.
Bradford, Claude L., 315 Empire Building.
Bremer, Fred W., 717 First St., N.S.
Brenneman, Richard E., Jenkins Arcade Bldg.
Brown, John R., 1005 Wylie Ave.
Brown, John W., 1303 Wylie Ave.
Brown, Louis M., Alle. Co. Home, Woodville.
Brown, Lu Van Leer, Castle Shannon.
Brown, Prentiss A., New Kensington (Westmoreland Co.).
Brown, Silas S., 2533 Perrysville Ave., Allegheny.
Brundage, Robert A., Municipal Hospital.
Bryant, William C., Jenkins Arcade Building.
Bubb, George S., McKees Rocks.
Buchanan, John J., 1409 N. Highland Ave.
Buka, Alfred J., 1401 Pennsylvania Ave.
Bulford, Daniel N., 100 E.North Ave.,Allegheny.
Bumgarner, George L., Natrona.
Burke, John G., Jenkins Arcade Building.
Burket, John H., R.D. 4, Carnegie.
Burkett, Albert H., McKees Rocks.
Burkett, John Wesley, Moon Run.
Burleigh, William T., 808 N. Negley Ave.
Burns, Harry B., 2037 Wylie Ave.
Burns, Richard G., Franklin Road, N.S.
Burt, James C., Westinghouse Building.
Butz, Robert, Independence, Iowa.
Cadwalader, J. S., Wexford.
Cain, Frank M., 417 Brushton Ave.
Caldwell, J. Clarence, 133 South Main St., Butler (Butler Co.).
Cameron, Markley C., 510 Highland Building.
Cameron, William H., 4615 Forbes St.
Camp, George N., 5611 Penn Ave.
Campbell, Charles L., Sheridanville.
Campbell, William M. F., 742 Chartiers Ave., McKees Rocks.
Carroll, Thomas B., Jenkins Arcade Building.
Carson, Ward E., 212 N. Highland Ave.
Cartwright, Harry B., 910 Highland Building.
Caskey, Walter H., 7941 Tioga St., Wilkinsburg.
Cathcart, Wilson B., 6409 Frankstown Ave.
Cavanagh, Will J., 1339 Fayette St., N.S.
Cave, William A., 2446 Wylie Ave.
Caven, William A., 2126 Fifth Ave.
Chalfant, Sidney A., 918 Westinghouse Bldg.
Charles, William S., 2110 Carson St.
Cheesman, Leroy H., Keenan Building.
Christy, T. Chalmers, 99 North Hudson Ave., Pasadena, California.
Clark, Astley C., 3420 Butler St.
Clark, Harry E., Sheridanville.
Clark, Henry H., 225 Atlantic Ave.
Clark, James W., 5173 Penn Ave.
Clark, Nelson H., Highland Building.
Clark, Robert W., 655 Maryland Ave.
Clark, Walden A., 4407 Butler St.
Clarke, Julius J., 6104 Penn Ave.
Clarke, Robert C., 129 South Highland Ave.
Cochran, T. Preston, 2301 Salisbury St.
Cohoe, Benson A., 705 N. Highland Ave.
Colcord, Amos W., Clairton.
Coleman, Thomas, 2137 Center Ave.
Collins, J. Harry, 308 Collins Ave.
Connell, James G., % R. M. Allison, Hickory (Washington Co.).
Conti, Gaetano, 27 Chatham St.
Cope, Pierson C., Braddock.
Cotton, Robert W., 600 Chartiers Ave., McKees Rocks.
Cowan, Victor W., 823 Fifth Ave., McKeesport.
Craig, Ford B., 518 Second Ave., Pitcairn.
Cratty, Alfred R., 813 Wylie Ave.
Crawford, Herbert P., Crafton.
Crawford, J. Slater, 17 Center Ave., Ingram.

Cristler, John W., Shippingport (Beaver Co.).
Croft, Clarence C., 7401 Church St., Ben Avon.
Crookston, William Judd, 5905 Penn Ave.
Cruikshank, Omar T., 203 Chartiers Ave., Carnegie.
Cunningham, Daken W., Bellevue.
Cunningham, George S., 1844 Fifth Ave.
Curll, Clyde L., 99 Hazelwood Ave.
Curry, Glendon E., Westinghouse Building.
Daggette, Alvin S., 400 South Craig St.
Davis, Adam C., Hites.
Davis, David M., Broughton.
Davis, Fannie, 801 Arch St., N.S.
Davis, Frank M., 14 Lowrie St., Allegheny.
Davis, James A., 404 Penn Ave.
Davis, Mase S., Diamond Bank Building.
Davis, Thomas D., 261 Shady Ave.
Davison, Robert E., 634 Fulton Building.
Day, Ewing W., Westinghouse Building.
Dean, Howard E., 428 Library Ave., Braddock.
Dearth, Walter A., Keenan Building.
Decker, Harry R., 1126 Highland Building.
DeMuth, J. Smith, Jenkins Building.
Denny, Clark B., Oakdale.
Dickey, Edward S., 1023 Highland Bldg.
Dickinson, Breese M., Keenan Building.
Dickson, Joseph Z., Westinghouse Building.
Dickson, Robt. W., Edgeworth Lane, Sewickley.
Diller, Theodore, Westinghouse Building.
Dillinger, G. Arthur, Empire Building.
Diltz, Harry C., 714 Wood St., Wilkinsburg.
Disque, Thomas L., Jenkins Building.
Dixon, John W., 820 Wood St., Wilkinsburg.
Donaldson, Holland H., 3600 Fifth Ave.
Donaldson, John S., 486 Lincoln Ave., Bellevue.
Donaldson, Walter F., 308 Diamond Bank Bldg.
Dornbush, Bertha E., 228 Amber St.
Douthett, Joseph M.,Center Ave.and Graham St.
Dranga, Amelia A., Lyceum Building.
Duff, A. William, Keenan Building.
Duncan, James A., 220 Winebiddle St.
Duncan, James E., 328 Ward St.
Duncan, Joseph L., Jenkins Building.
Dutton, Walton Forest, 401 Fourth Ave., Carnegie.
Eakins, O. M., Farmers Bank Building.
Eastman, Henry, Park Building.
Easton, John S., Jenkins Arcade Bldg.
Eaton, Percival J., 715 North Highland Ave.
Eber, Samuel I., 1520 Center Ave.
Edwards, James F., Bureau of Health.
Edwards, Ogden M., Jr., 5607 Fifth Ave.
Egan, Joseph P., 218 Braddock Ave., Braddock.
Eggers, August H., 5815 Rural Ave.
Eicher, Charles G., 607 Chartiers Ave., McKees Rocks.
Eisaman, Ottice N., 7145 Idlewild St.
Eisenhart, James E., 1325 Federal St.
Elliott, Andrew H., 625 California Ave., Avalon.
Elliott, Frederick B., 815 Wylie Ave.
Elliott, George B., 409 North Ave., Millvale.
Ellis, Charles J., 6027 Penn Ave.
Elphinstone, J. Wade, 3541 California Ave.
Elterich, Theodore J., 724 Highland Building.
Ely, George W., 7105 Frankstown Ave.
Emmerling, Charles, Rebecca and Liberty Sts.
Emmerling, Karl A., 476 Rebecca St.
Engle, Guy D., 745 Trenton Ave., Wilkinsburg.
Erhard, Ernest L., Glassport.
Ertzman, Richard L., 119 Greenfield Ave.
Espy, John S., 4748 Friendship Ave.
Evans, David R., 2006 Carson St.
Evans, Edward E., 2715 Fifth Ave., McKeesport.
Evans, Roscoe, 134 Taggart St., Allegheny.
Evans, Thomas, Jr., Highland Bldg.
Everhart, James K., 3339 Forbes St.
Ewing, William, B., Westinghouse Building.
Ewing, William H., Herron and Wylie Aves.
Eyman, William G., 1232 Greenfield Ave.
Faulkner, Richard B., 306 Diamond Bank Bldg.
Feldstein, George J., 2037 Center Ave.
Feltwell, Myrtle R., Sewickley.
Fenollosa, Sydney K., 4634 Fifth Ave.
Ferner, Joseph J., 5541 Ellsworth Ave.
Fife, S. John S., Bridgeville.
Findley, William McCrea, 1101 Franklin St., Wilkinsburg.
Fink, Harry M., Bessemer Building.
Finkelpearl, Henry, 1906 Fifth Ave.
Fischer, Henry F., Springdale.
Fischer, N. Arthur, 202 Forbes Building.
Fisher, H. F., 705 Braddock Ave., Braddock.
Fisher, Harrison Horton, 530 Lincoln Ave.
Fisher, Joseph W., 824 Madison Ave.,Allegheny.
Fleming, Edwin R., 629 Brookline Blvd.
Fluke, George T., 4509 Butler St.
Fogleman, Adam P., Munhall.
Foster, Curtis S., 308 Diamond Bank Bldg.
Foster, Eli Norman, Mt. Oliver Sta.
Foster, William C., 5905 Penn Ave.
Foster, William S., 252 Shady Ave.
Frank, Austin C., Jenkins Arcade Building.
Franklin, Paul H., 276 Craig St.
Frederick, F. H., 1335 Reedsdale St., N.S.
Frederick, William, Chartiers Ave., W.E.
Freed, Raymond S., 2010 Fifth Ave.
Freeland, James R., 4715 Fifth Ave.
Frodey, Raymond J., Empire Building.
Frost, Ellis M., 205 S. Craig St.
Frye, Daniel W., 4609 Second Ave.
Fulton, Henry D., 5149 Butler St.
Furnee,Charles H., Kittanning (Arms. Co.).
Gantt, Allen G., 67 Frankstown Ave.
Gardiner, Francis G., 4833 Butler St.
Gardner, E. Roy, Ben Avon.
Gardner, William H., 733 Liberty St.,Allegheny.
Gaub, Otto C., Keenan Building.
Gelb, Morris J., Jenkins Arcade Bldg.
George, Shaul V., Liberty Bank Building.
Gibans, Myer J., 1306 Fifth Ave.
Gill, Walter M., 3705 Fifth Ave.
Gilliford, Robert H., 1224 Fayette St., N.S.
Girard, Frank R., Jenkins Building.
Glenn, Milton L., 2220 Woodstock Ave., Swissvale.
Glynn, William H., 2033 Center Ave.
Goehring, Walter G., 7644 Frankstown Ave.
Golden, John F., Dormont.
Golden, John P., 37 Manning Ave., Sumter, S.C.
Goldsmith, Luba Robin, 520 N. Negley Ave.
Goldsmith, Maurice F., 9 Stevenson St.
Goldsmith, Milton, Jenkins Arcade Building.
Goodsell,John W.,New Kensington (Westm.Co.).
Goodstone, Morris A., Fifth Ave. and Washington St.
Gorrell, John F., Everett (Bedford Co.).
Gould, John E., 2400 Berge Ave.
Gould, Margaret A., 606 Sherman Ave., N.S.
Goulding, Charles O., 239 Shady Ave.
Gray, Earl P., 510 Hay St., Wilkinsburg.

Grayson, Thomas Wray, Westinghouse Bldg.
Greenfield, John C., Clairton.
Greer, Martin N., 37 Lowrie St., Allegheny.
Greig, Thomas G., 1501 Carson St.
Grekin, Jacob, 1538 Center Ave.
Grier, George W., Jenkins Building.
Griffith, David E., 5200 Butler St.
Griffith, John P., 4715 Fifth Ave.
Grimes, Thomas H., Sewickley.
Gross, Julius Edward, 508 Jenkins Building.
Groth, Herman, 1523 Fremont St., Allegheny.
Grove, Robert E., 1600 Maplewood Ave., Wilkinsburg.
Guy, William H., 3725 Brighton Rd., N.S.
Haben, John F., 218 Sixth Ave., McKeesport.
Hagemann, John A., 400 South Rebecca St.
Hager, Christian, Braddock.
Hagmaier, Otto C., 1135 Greenfield St.
Hall, Alice Louise, Tarentum.
Hall, Henry M., 502 Loyd St., Homewood.
Hall, William T., 401 Lock St., Tarentum.
Hallock, William E., Fifth and Aiken Aves.
Halpert,Louis H.,16 N.Duquesne Ave.,Duquesne.
Halverstadt, C. H., Perrysville.
Hamer, Edward E., 1512 Pennsylvania Ave.,N.S.
Hamilton, William R., Keenan Building.
Hampsey, Alexander R., 2410 Arlington Ave.
Hankey, Stacy M., 1024 Highland Building.
Harris, Ira C., 1032 Braddock Ave., Braddock.
Hartung, Frederick A., 606 Southern Ave., Mt. Oliver, Pittsburgh.
Hawkins, John A., Keenan Building.
Haworth, Elwood B., 145 North Craig St.
Hayden, W. G., 243 South Pacific Ave.
Hayes, Charles H., 125 Hazelwood Ave.
Hays, George L., 4704 Fifth Ave.
Hazzard, Thomas L., 117 East Montgomery Ave., Allegheny.
Heard, James D., Liberty National Bank Bldg.
Heath Robert M., Liberty Rd., Fair Haven.
Hechelman, Herman W., 709 Washington Place, Allegheny.
Heck, Fred H., 1379 Lincoln Ave.
Heckel, Edward B., Jenkins Building.
Hector, Louis H., 706 First St., Allegheny.
Hegarty, John P., 818 Wylie Ave.
Heid, George J., 2407 Penn Ave.
Heilman, Martin W., Brackenridge.
Henderson, Walter L., East McKeesport.
Henney, Bernard J., 213 Fourth Ave., Carnegie.
Henninger, Charles H., Jenkins Arcade Bldg.
Henrici, Arthur T., St. Francis Hospital.
Hersman, Christopher C., 2228 Carson St., S.S.
Hesser, Andrew J., 4924 Liberty Ave.
Hicks, Abram V., 5408 Penn Ave.
Hickson, William J., 612 Smithfield St.
Hieber, H. Chester, Jenkins Building.
Hierholzer, John C., Jenkins Building.
Hiett, George W., 4030 Perrysville Ave., N.S.
Hileman, Joseph B., Pitcairn.
Hill, Charles A., Keenan Building.
Hill, Ralph L., Cleveland Ave., Bellevue.
Hipsley, Robert F., 464 Perrysville Ave., West View.
Hirsch, Leon, Jenkins Arcade Building.
Hodgkiss, James, 47 Boggs Ave.
Hodgson, William E., Glassport.
Hodkinson, William A., Keenan Building.
Hoffmann, Joseph H., Jenkins Building.
Hoffmann, Norbert L., 124 Cohasset St.
Holliday, George A., Jenkins Arcade Building.
Holt, J. Floyd, 634 Herron Ave.
Hopkins, Albert J., 6101 Penn Ave.
Hopkins, Herbert J., 6101 Penn Ave.
Hopper, Arthur W., Bridgeville.
Howell, Samuel McK., 1728 Fifth Ave.
Huffman, David C., Sixth and Walnut Sts., McKeesport.
Hufford, James F., Elrama (Washington Co.).
Huggins, Raleigh R., 1018 Westinghouse Bldg.
Hughes, Willet P., 5500 Center Ave.
Hunter, Andrew, 817 Fifth Ave., McKeesport.
Husted, Alonzo Don, 73 Allen Ave.
Hutchinson, Henry A., Dixmont.
Huth, John A., Natrona.
Iams, J. Donald, Chartiers Ave., Sheridanville.
Iland, Edward M., Coraopolis.
Ingram, Clarence H., 5517 Fifth Ave.
Ingram, W. Herbert, 1153 Murray Hill Ave.
Jackson, Chevalier, 1018 Westinghouse Bldg.
Jackson, Daniel F., Jenkins Building.
Jackson, Joseph M., 11 Stevenson St.
Jamison, Daniel I., 508 Madison Ave.,Allegheny.
Jennings, Charles W., 304 Highland Bldg.
Jennings, Samuel D., Sewickley.
Jenny, Thomas G., Penn and Negley Aves.
Jew, Henry D., 2306 Darlington Ave., Mt.Oliver.
Johnson, Samuel H., 4025 Butler St.
Johnson, T. D. Barton, 820 N. St. Clair St.
Johnston, George C., Jenkins Arcade Building.
Johnston, James I., 201 South Craig St.
Johnston, Robert C., Springdale.
Jones, Clement R., Empire Building.
Jones, Herbert Leroy, 4819 Second Ave.
Jones, Russel R., Edgewood Park.
Jones, Wm. W., 940 Western Ave., Allegheny.
Katzenstein, M. Boyd, Jenkins Arcade Bldg.
Kaufman, Albert S., New Kensington (Westmoreland Co.).
Kean, Joseph Walter, Bridgeville.
Keebler, Charles Barton, McKees Rocks.
Keller, Niles P., 428 Fourth Ave.
Kellogg, Frederic S., 654 Herron Ave.
Kelly, George M., 1636 Main St., Sharpsburg.
Kelso, John S., 740 California Ave., Avalon.
Kennedy, David D., 5712 Forbes St.
Kenworthy, Frank, 4817 Liberty Ave.
Kern, Frank M., 119 Greenfield Ave.
Kerr, J. Purd, 1908 Carson St.
Kerr, Thomas R., Oakmont.
King, Cyrus B., 1007 Western Ave., Allegheny.
King, Isaac K., 226 Brownsville Road, Mt. Oliver, Pittsburgh.
King, S. Victor, Westinghouse Building.
Kirk, James A., Carrick.
Kirk, Thomas T., 4908 Liberty Ave.
Kirk, William H., Keenan Building.
Klinzing, Henry, 2258 Pioneer Ave.
Klotz, Oskar, 4720 Wallingford St.
Kneedler, G. Clyde, Jenkins Building.
Knorr, Lawrence R., 224 South Main St
Knowlton, James W., Tarentum.
Knox, William F., McKeesport.
Kocher, Quintin S., Gradatim.
Koenig, Adolph, 1111 Westinghouse Building.
Kohberger, Henry P., 405 Larimer Ave.
Koontz, David M., New Kensington (Westmoreland Co.).
Krebs, Adolph, Jenkins Arcade Bldg.
Kreider, Daniel B., Unity Station, R.D. 1.

Krieger, Geo. L., New Kensington (Westmoreland Co.).
Krepps, Allen L., Bessemer Building.
Kuhns, Finley H., Keenan Building.
Kunkel, Howard W., 3514 Forbes St.
Lamon, Goldson T., New Kensington (Westmoreland Co.).
Lange, J. Chris, 158 Bellefield Ave.
Lange, William J., 6200 Penn Ave.
Langfitt, William S., Jenkins Arcade Building.
Langham, William H., 811 West St., Homestead.
Lasday, Louis, Twenty-second and Flowers Aves.
Latimer, Nan M., Lien Chow, South China.
Lauffer, Charles A., 721 South Ave., Wilkinsburg.
Laurent, F. Victor, Jenkins Arcade Building.
Lawson, William E., 814 Ann St., Homestead.
Lear, Isaac N., 175 Iten St., N. S.
Lehner, William H., 1904 Carson St.
Leibold, George, 169 Iten St., N.S.
Leininger, Charles P., Jenkins Arcade Building.
LeMoyne, Frank, care of F. T. Billings, M.D., Fifth Ave. and Craig St.
Lewin, Adolph L., 3703 Penn Ave.
Leydic, C. Clark, Natrona.
Leydic, Clarence L., Tarentum.
Lichtenstein, Meyer B., 1532 Center Ave.
Lichty, John A., 4634 Fifth Ave.
Lindeman, Charles E., 7135 Hamilton Ave.
Lindsay, Charles S., 3401 McClure Ave.
Lindsay, James A., 622 Jenkins Building.
Lippincott, J. Aubrey, Jenkins Building.
Litchfield, Lawrence, 5431 Fifth Ave.
Logan, Edward P., 1111 Arch St., Allegheny.
Long, James McMaster, 5928 Kentucky Ave.
Lowrie, James Walter, 714 Braddock Ave., Braddock.
Lowrie, Robert N., 647 Fourth St., Braddock.
Lurting, Clarence W., 1707 Fremont St.
Luther, John M., 800 Keenan Building.
Lutz, Carl L., 637 California Ave., Avalon.
Lyon, Alvin K., 413 North Ave., Millvale.
Lyon, William Reynolds, Glenfield.
McAboy, C. Bradford, 7136 Hamilton Ave.
McAdams, Robert J., 4818 Liberty Ave.
McCandless, J. Guy, 5436 Center Ave.
McCann, John B., 811 Wylie Ave.
McCarrell, James R., 1115 Bidwell St., Allegheny.
McCausland, Wm. S., 10 Grant St., Duquesne.
McCleary, William W., Bellevue.
McClure, James D., 436 Rebecca Ave., Wilkinsburg.
McClymonds, Horace S., Wilkinsburg.
McComb, Samuel Forbes, Tarentum.
McCombs, Willison H., 1603 Carson St.
McConeghy, Robert K., 187 Forty-third St.
McConnell, Thomas E., Parnassus (Westmoreland Co.).
McCorkle, William P., 653 Sherwood St., Sheridanville.
McCormick, John C., 50 Shiloh St.
McCready, E. Bosworth, 909 Keenan Bldg.
McCready, Frank L., Sewickley.
McCready, J. Homer, 816 Empire Building.
McCready, James M., Sewickley.
McCready, Joseph A., 5482 Penn Ave.
McCready, Robert J., 909 Keenan Building.
McCullough, William P., Cheswick.
McCune, Charles E., Second St., Buena Vista.
McCune, David P., 519 Walnut St., McKeesport.
McCurdy, John R., Monongahela (Wash. Co.).
McCurdy, Stewart L., 8103 Jenkins Arcade Bldg.
McDonald, Francis T., Denver, Col.
McElroy, James C., Perrysville Ave. and Buena Vista St., Allegheny.
McFarland, William W., S. Highland Ave. and Baum St.
McGarvey, S. C., Bridgeville.
McGeagh, Albert C., 134 South Negley Ave.
McGeary, Wm. J., R.D. 1, Sharpsburg.
McGrath, John F., 1048 Fifth Ave.
McGuire, Hugh E., Pittsburgh Life Building.
McIntire, David B., Highland Building.
McKee, Carlisle E., Greensburg (Westm. Co.).
McKee, George J., Westinghouse Building.
McKee, Joseph H., 317 Main Ave., Carnegie.
McKee, Madison M., 4825 Liberty Ave.
McKelvy, James P., 519 North Highland Ave.
McKenna, William B., Highland Building.
McKennan, Moore S., 3451 Ward St.
McKennan, Thomas M. T., Jenkins Arcade Bldg.
McKibben, Alpheus, 1126 Highland Building.
McKibben, Samuel H., 4062 Penn Ave.
McKinnon, Charles L., McKees Rocks.
McKnight, George S., 349 S. Highland Ave.
McLallen, James I., 801 Wood St., Wilkinsburg.
McLenahan, Thomas M., Greenfield Ave.
McMaster, Gilbert C., 1901 Broadway, Nineteenth Ward.
McMurray, Thomas E., 553 Trenton Ave., Wilkinsburg.
McNaugher, Samuel N., Perrysville Ave., Allegheny.
McNeely, John F., Munhall.
McNeil, George W., 231 Frankstown Ave.
McQuaid, Joseph R., Leetsdale.
McWilliams, W. Milo, Murray and Darlington Rd.
Mabon, John S., Empire Building.
Macdonald, Clarence P., 123 Beltzhoover Ave.
Macfarlane, James W., Westinghouse Bldg.
MacLachlan, Archibald A., Empire Building.
Mackrell, John S., 5301 Liberty Ave.
Macrum, Robert S., 531 Beaver Ave., Sewickley.
Madden, Francis J., 35 Grant St., Duquesne.
Magill, Arthur C., 4404 Penn Ave.
Maits, Charles B., 6206 Penn Ave.
Mallison, Elizabeth C., 536 Fifth Ave., McKeesport.
Manchester, Llewellyn C., 614 Kirkpatrick St.
Marcus, Samuel J., 1641 Fifth Ave.
Marick, Simon W., 1610 Center Ave.
Markel, James Clyde, 918 Westinghouse Bldg.
Marren, Patrick J., 713 Arch St., Allegheny.
Marshall, Calvin C., 439 Jucunda St., Knoxville.
Marshall, Caroline S., 7045 Hamilton Ave.
Marshall, Watson, Diamond Bank Building.
Marshall, William N., Aspinwall.
Martin, Elizabeth L., 329 South Dallas Ave.
Martin, John L., 401 North Highland Ave.
Martin, W. Walton, Main St. and Penn Ave.
Matheny, A. Ralston, 7032 Hamilton Ave.
Mathewson, Franklin W., Oakdale.
Matson, Eugene G., Bureau of Health.
Maxwell, Hugh S., Elrama (Washington Co.).
Maxwell, W. Clark, 708 Highland Building.
Maxwell, Wilson W., 5177 Liberty Ave.
Mayer, Edward E., Keenan Building.
Meanor, Harold Henderson, Coraopolis.
Mechling, Curtis Campbell, Jenkins Arcade Bldg.
Mercur, Wm. H., Fifth Ave. and St. James St.

Meredith, Evan William, Highland Building.
Metzgar, Daniel A., 600 Braddock Ave., Braddock.
Metzger, George, 1007 Chestnut St., Allegheny.
Miller, Franklin B., Fulton Building.
Miller, Harold A., 219 Sixth St.
Miller, J. M., 4741 Bayard St.
Miller, James A., Braddock.
Miller, Laird O., 104 North Ave., E.
Miller, Oliver L., 104 North Ave., E.
Miller, Robert T., Jr., 6 Colonial Pl., E. E.
Miller, Thomas A., 59 Rogers Ave., N.
Miller, Thomas B., Moon Run.
Milligan, John D., 347 Fourth Ave.
Milligan, Robert, Westinghouse Building.
Milligan, Samuel C., Jenkins Building.
Mills, S. Roy, 834 Braddock Ave., Braddock.
Mills, Wm. W., Fourth and Kennedy Sts., Duquesne.
Minnich, William C., 708 Chartiers Ave., McKees Rocks.
Mitchell, Lewis T., Aspinwall.
Montgomery, Ellis S., Jenkins Building.
Montgomery, W. Harry, Wall and Second Sts., Pitcairn.
Moran, Timothy Joseph, Jenkins Arcade Bldg.
Morris, Alanson F. B., 6901 Hamilton Ave.
Morrow, H. Wilson, Swissvale.
Moyar, Charles C., Diamond Bank Building.
Moyer, Irwin J., 3525 Forbes St.
Mudie, William Gilmore, Frankstown and Lincoln Aves.
Munford, John R., 4922 Penn Ave.
Murdoch, J. Floyd, Bessemer Building.
Murdock, James H., 1113 Federal St., N.S.
Murphy, Arthur Irwin, 209 South Millvale Ave.
Murray, Robert J., 42 Broad St., Sewickley.
Myler, T. Frederick, Burton, Ohio.
Nason, F. Thoburn, McKeesport.
Naylor, Mary A., 5480 Penn Ave.
Nealon, William A., 4526 Penn Ave.
Neeley, Elmer E., 1302 Pennsylvania Ave., Allegheny.
Neely, Frank, 3909 Perrysville Ave., Allegheny.
Neff, Edward L., 920 Park Building.
Nelan, Thomas G., 6223 Penn Ave.
Nettleton, DeWitt B., Sewickley.
New, Grant J. A., 917 Carson St.
Newlin, Harry S., McKeesport.
Nicholls, J. Calvin, 548 Braddock Ave., Braddock.
Nowry, Samuel E., 405 Annie St., Wilmerding.
O'Brien, William D., Hazelwood Ave.
O'Connor, Harry T., 736 Woodburne Ave., Mt. Oliver, Pittsburgh.
O'Hagan, Walter L., 2702 Pioneer St.
Ohail, Joseph C., 412 W. North Ave., Allegheny.
Ohlman, Isaac L., 8122 Jenkins Arcade Bldg.
Opipari, Achilli V., 31 Chatham St.
Ord, Edward Y., West Elizabeth.
Orr, Charles A., Crafton.
Orris, Charles S., Brackenridge.
Osterloh, Charles T., 116 East North Avenue, Allegheny.
Owens, Charles K., Jenkins Arcade Building.
Owens, John R., 3328 Bouquet St.
Oyer, Harry W., Jenkins Arcade Bldg.
Palmer, Chauncey L., Washington Road, Mt. Lebanon.
Parkin, E. Harris, Negley and Stanton Aves.
Patterson, B. Howard, 655 Trenton Ave., Wilkinsburg
Patterson, Ellen James, Westinghouse Bldg.
Patterson, Harry B., Highland Building.
Patton, Elmer E., New Kensington (Westm.Co.).
Perkins, David M., 516 Federal St.
Pershing, Frank S., 768 Penn Ave., Wilkinsburg.
Pettit, Albert, Keenan Building.
Phillips, Jacob W., 2108 Center Ave.
Phillips, John S., 614 Chestnut St., Allegheny.
Phillips, William T., Library.
Pierce, Amos M., West Elizabeth.
Piper, Elmer N., New Kensington (Westm.Co.).
Polk, Oscar I., 874 Braddock Ave., Braddock.
Pollock, William F., 1912 Carson St.
Pool, Stewart N., 7000 Penn Ave.
Poole, Richard E., Castle Shannon.
Porter, John, 1000 S. Park Ave., McKeesport.
Potts, James A., 15 Shiloh St.
Price, Albert D., 127 Hazelwood Ave.
Price, Henry T., Westinghouse Building.
Proescher, Frederic, Fair Oaks and Negley Ave.
Purman, John, Eighth and West Sts., Homestead.
Pyle, William T., 7479 McClure Ave., Swissvale.
Rafferty, Donald George, 4700 Fifth Ave.
Rall, George W., Liberty Bank Building.
Ralston, B. Stewart, Neville and Center Sts.
Ramsey, William Stewart, Coraopolis.
Ransom, Frederick P., 1001 Western Ave., N.S.
Ray, William B., Glenshaw.
Read, John, 530 Fifth Ave., McKeesport.
Rectenwald, John J., 132 Southern Ave., Mt. Oliver, Pittsburgh.
Rectenwald, Lawrence E., 25 Branch St., N.S.
Reed, I. Bebout, Crafton.
Reed, John O., Crafton.
Reif, Charles E., 616 Chestnut St., Allegheny.
Reiter, David, 613 Eighth Ave., Homestead.
Rex, Thomas A., 1327 St. Andrews Pl., Los Angeles, Cal.
Rhodes, Frederick A., 5119-5120 Jenkins Arcade Building.
Ribetti, Gaetano T., 66 Washington St.
Ricketts, John G., 199 Steuben St., W.E.
Riethmuller, Albert Herman, 223 North Ave., Millvale.
Rigg, John E., 820 Wood St., Wilkinsburg.
Riggs, Elliott S., 38 West Prospect Ave., Washington (Washington Co.).
Rinard, Charles C., Homestead.
Ritchey, Elmer C., 214 Charles St., Mt. Oliver, Pittsburgh.
Ritchey, John B., 520 W. Seventh St., Long Beach, California.
Ritchie, M. Delmar, Empire Building.
Robeson, William F., Westinghouse Bldg.
Robinson, J. W., 3600 Fifth Ave.
Robinson, Wilton H., 6210 Penn Ave.
Rodgers, William H., 1421 Lincoln Ave.
Roose, Arthur E., 711 Linden Ave., East Pittsburgh.
Ross, Wm. F., New Kensington (Westm. Co.).
Rowan, Charles, 218 Fisk St.
Ruben, Jacob A., 1612 Center Ave.
Rubenstein, Louis G., 864 Braddock Ave., Braddock.
Rudolph, Franklin W., 1907 Worrell St.
Rugh, Wilson J., 109 Park Ave.
Russell, John McD., 5418 Penn Ave.

Ryall, Thomas M., 32 Wabash Ave.
Sable, Daniel E., 1204 Fifth Ave.
Sadowski, Leon, 2625 Penn Ave.
Sahm, Wm. K. T., Room 124, Union Station.
Sandblad, Andrew G., 728 Sixteenth St. McKeesport.
Sandels, Christopher C., Westinghouse Bldg.
Sanes, K. Isadore, Jenkins Building.
Sankey, Thomas M., 701 Trenton Ave., Wilkinsburg.
Schaefer, Arthur P., 418 Madison Ave., Allegheny.
Schaefer, Chas. N., 1140 Southern Ave., Carrick.
Schatzman, Edward P., 718 First St., Allegheny.
Schildecker, Charles B., Park Building.
Schill, Joseph J., 3709 Butler St.
Schlanger, Frederick A., 5171 Butler St.
Schleiter, Howard G., 5420 Stanton Ave.
Schlotbom, Max G., 2710 Penn Ave.
Schmid, Henri, 2145 Perrysville Ave., N.S.
Schmidt, Albert T., Turtle Creek.
Schoyer, George Shires, 790 Frankstown Ave., Wilkinsburg.
Schrack, Frank M., 2417 Carson St.
Schumaker, Milton D., Tarentum.
Schwartz, Loraine L., 905 Keenan Building.
Scooley, A. Wiles, Braddock.
Scott, Joel F., Wilson.
Scott, William, Coraopolis, R.D. 3.
Seegman, S., Jenkins Arcade Building.
Seville,David Walter,193 Lincoln Ave.,Bellevue.
Shaffer, P. T. Barnum, Elizabeth.
Shallcross, William G., Highland Building.
Shaw, Henry A., 2414 Carson St.
Shaw, James P., 1634 Fifth Ave.
Shaw, William C., 909 Wylie Ave.
Sherman, William S. O., Carnegie Building.
Sherrill, Alvan W., 5506 Ellsworth Ave.
Shillito, Geo. M., 801 Sandusky St., Allegheny.
Shillito, Nicholas G. L., Jenkins Arcade Bldg.
Shirey, Charles W., 220 North Beatty St.
Sigal, Harry M., 2139 Wylie Ave.
Silsby, Frederick W., Creighton.
Silver, David, Jenkins Arcade Building.
Silvey, John H., 1622 Main St., Sharpsburg.
Simon, David L., 1334 Fifth Ave.
Simonton, Thomas G., 5412 Ellsworth Ave.
Simpson, Frank F., Jenkins Arcade Building.
Simpson, John Reid, Westinghouse Building.
Singley, John DeV., 812 North Highland Ave.
Sloan, Edgar A., 7435 Church Ave., Ben Avon.
Smith, Charles H., Arnold (Westmoreland Co.).
Smith, H. McVicker, 401 Charles St., Mt. Oliver.
Smith, Jacob C., Tarentum.
Smith, Joseph B., 828 Braddock Ave., Braddock.
Smith, Lawrence D., Pitcairn.
Smith, Lewis W., 6024 Station St.
Smith, Stanley S., Jenkins Building.
Snively, Whitmore, 524 Penn Ave.
Snyder, F. G., 226 N. Main St., Sharpsburg.
Snyder, William K. J., Avalon.
Soffel, August, 23 Shiloh St.
Sohn, Charles, 4902 Liberty Ave.
Speer, Alexander M., 4900 Center Ave.
Speer, Harvey B., R.D. 3, Coraopolis.
Spiro, Marcus, 101 Taggart St., Allegheny.
Srodes, James L., Woodville.
Stahlman, Thomas M., 1111 Westinghouse Bldg.
Stanton, Charles C., 18th and Middle Sts., Sharpsburg.
Stanton, James N., 355 Atwood St.
Steele, Robert L., 606 Locust St., McKeesport.
Steim, Charles J., 820 Highland Building.
Steinberg, Edward I., Herald Square Hotel, New York City.
Steinmertz, Olive B., Eighth and Ann Sts., Homestead.
Sterrett, John K., 5522 Black St.
Stevenson, Alex. M., Jenkins Arcade Bldg.
Stevenson, Ellerslie W., Jenkins Arcade Bldg.
Stewart, Acheson, 905 Keenan Building.
Stewart, J. Boyd D., Wilson.
Stewart, Robert W., 4715 Fifth Ave.
Stewart, Wylie J., 814 Fourth Ave., Coraopolis.
Stieren, Edward, Westinghouse Building.
Stillwagen, Charles A., Highland Bldg.
Stimson, George W., Jenkins Arcade Bldg.
Stolzenbach, Frank D., 5517 Fifth Ave.
Stone, William L., Jenkins Arcade Building.
Stoneman, Madison U., 101 Clarendon Ave., Crafton.
Stotler, Fulton R., 611 Penn Ave., Wilkinsburg.
Storer, Frank M., 821 Wood St., Wilkinsburg.
Stover, Miles E., 1024 Rebecca St., Allegheny.
Straessley, Francis X., 621 Washington St., Allegheny.
Sturm, Samuel A., Keenan Building.
Stybr, Charles J., 865 Liberty St., Allegheny.
Stybr, Joseph, Bessemer Building.
Sunseri, Francisco, 800 Webster Ave.
Sunstein, Noah, 209½ Locust St., McKeesport.
Sutton, Edward Lincoln, Lincoln Ave.,Bellevue.
Swanton, Robert V., 1510 Penn Ave.
Swope, Lorenzo W., Park Building.
Taylor, Robert L., 4736 Friendship Ave.
Taylor, W. VanMetre, McKeesport.
Terheyden, William A., 5000 Liberty Ave.
Thomas, Clarence M., 1213 Brownsville Road, Carrick.
Thomas, Vernon D., 7040 Frankstown Ave.
Thompson, J. Calvin, 503 Union Ave.,Allegheny.
Thompson, Lloyd L., 305 E. Eighth Ave., Homestead.
Thorne, John M., 3603 Fifth Ave.
Tilbrook, John R., Pitcairn.
Todd, Frank L., 804 Sherman Ave., Allegheny.
Trevaskis, Abraham L., Turtle Creek.
Tufts, Stewart W., Highland Building
Turfley, George G., 1854 Center Ave.
Turnbull, Thomas, Jr., 835 Western Ave., Allegheny.
Turner, Hunter H.,235 Hawkins Ave.,Braddock.
Updegraff, Harry C., 1602 Brownsville Rd., Mt Oliver, Pittsburgh.
Utley, Frederick B., 1126 Highland Building.
VanHorne, Thomas C., 310 Frankstown Ave.
VanKirk, Joseph, Elizabeth.
VanKirk, Theophilus R., McKeesport.
VanNorman, Karl Halifax, Johns Hopkins Hospital, Baltimore, Md.
Vaught, Harry C., 1305 Middle St., Sharpsburg.
Vaux, Carey J., 526 Larimer Ave.
Vaux, David William, 4300 Butler St.
Vaux, George H., 2163 Center Ave.
Vincent, James R., Highland Building.
Wade, Francis H., Wadehurst, Cambridge, Mass.
Waldie, Edith T., Westinghouse Building.
Walker, Robert L., Carnegie.
Walker, William E., McKeesport.
Walker, William J., Homestead.

Walker, William K., Westinghouse Building.
Wallace, James O., Westinghouse Building.
Wallace, William C., Ingram.
Wallis, Alfred W., 4807 Second Ave.
Walters, DeForest E., 446 Atlantic Ave., McKeesport.
Walters, George W., The Colonial, Craft Ave.
Walters, John, 316 Beaver St., Sewickley.
Warnick, Edward M., 190 Forty-third St.
Watson, Adaline M., Highland Building.
Watson, Charles M., 516 Federal St., Allegheny.
Weamer, John A., 411 Third Ave., Tarentum.
Weber, William H., 1001 Carson St.
Wechsler, Benjamin B., 4943 Center Ave.
Weil, Grover C., 198 South Neville St.
Weill, Nathan J., Jenkins Arcade Building.
Weiss, Edward A., Jenkins Building.
Weiss, Harry, 5716 Forbes St.
Weisser, Edward A., Empire Building.
Welch, John C., Bellevue.
Werder, Xavier O., Jenkins Building.
Wertheimer,Herbert G.,1218 Westinghouse Bldg.
Wertz, S. G., 713 South Ave., Wilkinsburg.
Wesley, William H., 208 Liberty Bank Bldg.
Wessels, John L., 711 Sandusky St., Allegheny.
Westervelt, Henry C., 6101 Penn Ave.
White, Sidney G., Box 166.
White, William Charles, Bedford Ave. and Wandlass St.
Whitehead, Ira B., 1600 Broadway, 19th Ward.
Whitfield, Finley K., 814 Braddock Ave., Braddock.
Wholey, Cornelius C., 4616 Bayard St.
Wible, Elmer E., Diamond Bank Building.
Wiggins, Samuel L., McKeesport.
Wignall, Horace L. W., 821 Wylie Ave.
Willetts, Ernest W., 5101 Liberty Ave.
Willetts, Joseph E., Westinghouse Building.
Williams, Isadore, 629 Preble Ave., N. S.
Williams, John A., 206 W. Carson St.
Williams, Roger, 116 South Sheridan Ave.
Williamson, Joseph H., Bessemer Building.
Willock, John Scott, Beechdale Rd., Roland Park, Md.
Wilson, John M., S. Highland and Baum Aves.
Winters, George R., 112 Cohasset St.
Wirts, C. Wilmer, 703 East North Ave., N.S.
Wishart, Charles A., Bessemer Building.
Witherspoon, Jas.,500 W.North Ave.,Allegheny.
Wohlwendt, Frederick, Tarentum.
Wolf, Jacob, Jenkins Building.
Woodburn, Wilton A., 6744 Frankstown Ave.
Woods, Edward B., 715 N. Highland Ave.
Woods, Harry Robert, 600 Wylie Ave.
Woodward, Wm.M., 607 Fifth Ave., McKeesport.
Worrell, John W., 110 South Fairmount Ave.
Wright, George J., 4617 Center Ave.
Wright, James H., 654 Maryland Ave., E.E.
Wuerthele, Herman W., 161 Greenfield Ave.
Wycoff, George R., 529 Island Ave., McKees Rocks.
Wycoff, William A., 7211 Frankstown Ave.
Wymard, William Henry, 625 Homewood St.
Yorty, Valentine J., 7300 Monticello St.
Zabarento, Samuel, 2846 Carson St., S.S.
Zeller, Albert T., McKeesport.
Zieg, John, 802 Cedar Ave., N. S.
Ziegler, Charles E., Magee Memorial Hospital.
Zublin, Earnest, 807 St.Paul St., Baltimore, Md.
Zugsmith, Edwin, 1014 Jenkins Arcade Bldg.

ARMSTRONG COUNTY SOCIETY.

(Organized March 28, 1876.)

President...James A. Kelly, Whitesburg.
V. Pres.....Robert F. Tarr, Kittanning.
Sec. and
Reporter....Jay B. F. Wyant, Kittanning.
Treasurer...Thomas M. Allison, Kittanning.
Censors.....L. Dent Allison, Kittanning.
George S. Morrow, Dayton.
Albert E. Bower, Ford City.
Charles A. Rogers, Freeport.
Joseph D. Orr, Leechburg.

Com. on Pub.
Policy and
Legislation..Joseph D. Orr, Leechburg.
Thomas N. McKee, Kittanning.
Samuel A. S. Jessop, Kittanning.

Memb. Com.Thomas M. Allison, Kittanning.
Thomas N. McKee, Kittanning.

Prog. Com..Thomas N. McKee, Kittanning.
Frederick C. Monks, Kittanning.

Stated meetings at General Hospital, Kittanning, first Tuesday of each month. Election of officers in January.

MEMBERS (66).

Allison, James G., McGrann.
Allison, L. Dent, Kittanning.
Allison, Thomas M., Kittanning.
Ambler, Jesse E., Ford City.
Ambrose, Samuel E., Rural Valley.
Aye, Thomas L., Kelly Station.
Barton, Blain B., Adrian.
Bower, Albert E., Ford City.
Campbell, Jesse Wilbert, Elderton.
Campbell, Oren C., Ford City.
Clark, Omer C., Worthington.
Cooley, John M., Kittanning.
Deemer, John T., Kittanning, R.D. 1.
Deemer, Rosco, Kittanning, R.D. 1.
Dunkle, John M., Worthington.
Fleming, Edward L., Dayton.
Giarth, David I., Ford City.
Griffith, Wilbert E., Yatesboro.
Heilman, Sharon P., 1521 East Washington St. Phoenix, Arizona.
Henry, J. Thomas, Apollo.
Hetrick, Eleanor Jean, Kittanning.
Hileman, Frank W., Kittanning.
Heilman, Uriah O., Leechburg.
Hunter, James C., Apollo.
Hunter, Joseph I., Leechburg.
Hunter, Robert P., Leechburg.
James, John A., Yatesboro.
Jessop, Charles J., Kittanning.
Jessop, Samuel A. S., Kittanning.
Keeler, Charles E., Elderton.
Kelly, James A., Whitesburg.
Kiser, John K., Kittanning.
Knight, George A., Kaylor.
Lowery, John A., South Bend.
McCafferty, William H., Freeport.
McCreight, William S., Elderton.
McDowell, James R., Freeport.
McGogney, Charles B., Kaylor.
McKee, Thomas N., Kittanning.
McLaughlin, Charles M., Freeport.
Marshall, Robert P., Kittanning.

Mead, Ralph K., Sagamore.
Monks, Frederick C., Kittanning.
Morrow, George S., Dayton.
Newcome, Thomas H., Templeton.
Orr, Joseph D., Leechburg.
Parks, Clarence C., Leechburg.
Powers, Henry K., Kittanning.
Quigley, James E., Adrian.
Ralston, Robert G., Cowansville.
Ralston, William J., Kittanning.
Riffer, David H., Cochran Mills.
Robinstein, Carl H., Ford City.
Rogers, Charles A., Freeport.
Ross, C. C., Echo, R.D. 1.
Schnatterly, Lewis W., Freeport.
Seaton, Charles F., Sagamore.
Slagel, Gus I., New Orleans Polyclinic, New Orleans, La.
Steim, Joseph M., Kittanning.
Stockdale, Thomas F., Rural Valley.
Tarr, Robert F., Kittanning.
Thomas, David O.
Townsend, A. Howard, Apollo.
Walker, William B., Dayton.
Welch, Howard M., Leechburg.
Wyant, Jay B. F., Kittanning.

BEAVER COUNTY SOCIETY.

(Organized November 23, 1855.)

President...Andrew B. Cloak, Freedom.
V. Pres.....Wm. F. Beitsch, New Brighton.
Geo. L. McCormick, Beaver Falls.
Sec. and Treasurer...Boyd B. Snodgrass, Rochester.
Reporter....Margaret I. Cornelius, Beaver.
Censors.....Jefferson H. Wilson, Beaver.
George Y. Boal, Baden.
George J. Boyd, Beaver Falls.
Com. on Pub. Policy and Legislation..Scudder H. Peirsol, Jr., Rochester.
John J. Allen, Monaca.
Jay D. Smith, Freedom.

Stated meetings held in the Eagles Lodge room, third floor, Butler and Jackson Building, Rochester, on the second Thursday of each month at 3:30 P.M. Election of officers in January.

MEMBERS (59).

Ague, John B., Beaver Falls.
Allen, John J., Monaca.
Arthur, Walter C., Ambridge.
Baldwin, Caroline M., Rochester.
Beitsch, William F., New Brighton.
Bernhardy, Harry W., Rochester.
Boal, G. Fay, Freedom.
Boal, George Y., Baden.
Boyd, George J., Beaver Falls.
Burns, Emmett S., Beaver Falls.
Cloak, Andrew B., Freedom.
Cornelius, Margaret I., Beaver.
Dawson, Robert B., Smith's Ferry, R.D. 1.
Elliott, Washington F., Beaver Falls.
Fish, James C., Beaver Falls.
Gilliland, J. Frank, Beaver Falls.
Hensell, Robert S., Midland.
Herriott, Walter H., Freedom.
Jones, Harry B., Woodlawn.
Lacy, Henry C., 700 Seventh Ave.,New Brighton.
Langfitt, William J., 3042 Preble Ave., Allegheny (Allegheny Co.).
Louthan, James S., Beaver Falls.
McCandless, Milton L., Rochester.
McCaskey, Francis H., Freedom.
McConnell, Paul G., Beaver.
McCormick, George L., Beaver Falls.
McLaughlin, James W., Beaver Falls.
Mead, Harry B., New Brighton.
Meanor, William C., Beaver.
Miller, Leroy B., New Brighton.
Moore, Chalmers B., New Sheffield, R.D. 3.
Moore, Darius C., Monaca.
Moore, H. E., Ambridge.
Nye, Hiram W., Enon Valley (Lawrence Co.).
Painter, Bert C., New Brighton.
Patterson, Robert M., Beaver Falls.
Peirsol, Scudder H., Jr., Rochester.
Rose, Walter A., Rochester.
Sawyer, Benjamin C., Darlington.
Scroggs, Joseph J., Beaver.
Shugert, Guy S., Rochester.
Simpson, Spencer P., New Brighton.
Simpson, Theodore P., Beaver Falls.
Simpson, William Winfield, New Brighton.
Smith, Charles W., Aliquippa.
Smith, Jay D., Freedom.
Snodgrass, Boyd B., Rochester.
Snodgrass, Bruce H., Beaver Falls.
Stevens, John A., Woodlawn.
Stevenson, John D., Aliquippa.
Strouss, Ulysses S., Beaver.
Sturgeon, Samuel D., New Galilee.
Taggart, Kate M., Beaver Falls.
Torrens, Adelbert E., Conway.
Townsend, Leroy S., Beaver Falls.
White, James K., New Brighton.
Wickham, John J., Rochester.
Wilson, Fred B., Beaver.
Wilson, Jefferson H., Beaver.

BEDFORD COUNTY SOCIETY.

(Organized July 29, 1904.)

President...Walter F. Enfield, Bedford.
V. Pres.....Abram M. Miller, Hyndman.
A. Hank Evans, Saxton.
Sec. and Reporter....Clair B. Kirk, Everett.
Treasurer...Edmund L. Smith, Schellburg.
Censors.....Maurice V. Brant, Buffalo Mills.
Americus Enfield, Bedford.
William P. S. Henry, Everett.
Daniel W. Davis, Six Mile Run.
Com. on Pub. Policy and Legislation..Walter de la M. Hill, Everett.
William C. Miller, Bedford.
Benjamin F. Hunt, Clearville.

Stated meetings bimonthly in Bedford or in other places as may be determined by vote of the society. Election of officers in January.

MEMBERS (24).

Ayres, Wilmot, Bedford.
Brant, Maurice Victor, Buffalo Mills.
Brumbaugh, Clarence, Osterburg.
Campbell, Frank S., Hopewell.
Davis, Daniel Webster, Six Mile Run.
Eaton, Paul, Alum Bank.

Enfield, Americus, Bedford.
Enfield, Walter F., Bedford.
Evans, A. Hank, Saxton.
Gensimore, Charles W., New Enterprise.
Hanks, Jason G., Breezewood.
Henry, William P. S., Everett.
Hill, Walter de la M., Everett.
Horne, Taylor, New Paris.
Hunt, Benjamin F., Clearville.
Kirk, Clair B., Everett.
Lindsey, James Washington, Imler.
Miller, Abram M., Hyndman.
Miller, William C., Bedford.
Nycum, William E., Everett.
Price, James F., Six Mile Run.
Shimer, Harry, Alum Bank.
Shoenthal, Henry I., New Paris.
Smith, Edmund L., Schellburg.

BERKS COUNTY SOCIETY.

(Organized 1824.)

(Reading is the post office when street address only is given.)

President...Ira G. Shoemaker, 19 S. Ninth St.
V. Pres.....Henry W. Saul, Kutztown.
H. F. Rentschler, 228 N. Sixth St.
Secretary...H. Philemon Brunner, 122 Oley St.
Cor. Sec....R.A. Harding, 209 W.Greenwich St.
Treasurer...G. W. Overholser, 309 N. Ninth St.
Librarian...Wm. S. Bertolet, 233 N. Sixth St.
Reporter....Clara Shetter-Keiser,36 N.Tenth St.
Curator.....H. F. Rentschler, 228 N. Sixth St.
Censors.....Daniel Longaker, 344 N. Fifth St.
Israel Cleaver, 223 S. Fifth St.
I. H. Hartman, 237 N. Fifth St.
Trustees....Chas. W. Bachman, 221 N.Sixth St.
S. Banks Taylor, 140 Oley St.
I. H. Hartman, 237 N. Fifth St.
Howard S. Reeser, 111 S. Fifth St.
Geo. W. Kehl, 418 N. Tenth St.
Com. on Pub.
Policy and
Legislation..Chas. W. Bachman, 221 N.Sixth St.
F.W. Frankhauser, 38 S.Eighth St.
Howard S. Reeser, 111 S. Fifth St.

Stated meetings at Medical Hall, Reading, the second Tuesday of each month, at 3 P.M. Election of officers in December.

MEMBERS (98).

Ammarell, Winfield H., Birdsboro.
Bachman, Charles W., 221 North Sixth St.
Bankes, Claude W., 150 North Sixth St.
Bausher, Abner H., Temple.
Becker, John N., 332 North Ninth St.
Bertolet, John M., 1333 Perkiomen Ave.
Bertolet, Walter M., 1713 Center Ave.
Bertolet, William S., 233 North Sixth St.
Borneman, John S., Boyertown.
Bower, John L., 1333 Perkiomen Ave.
Brunner, H. Philemon, 122 Oley St.
Bucher, Hiester, 142 South Fifth St.
Burkholder, Samuel G., 613 Walnut St.
Cahn, Morris L., 535 North Eleventh St.
Cleaver, Israel, 223 South Fifth St.
Colletti, Ferdinando, 23 S. Third St.
DeLong, Eugene R., Geiger's Mills.
Dotterrer, Charles B., Boyertown.
Dunkelberger, Nathaniel Z., Kutztown.
Ermentrout, Samuel C., 1022 Penn St.
Fahrenbach, George, Bernville.
Feick, John F., 643 North Ninth St.
Fisher, William E., 151 West Buttonwood St.
Frankhauser, Fremont W., 38 South Eighth St.
Gerhard, James R., 540 Center Ave.
Hain, William J., 155 N. Fifth St.
Harding, Ralph A., 209 West Greenwich St.
Hartman, Irvin H., 237 North Fifth St.
Hawman, Erle G., 131 North Fifth St.
Hengst, Milton A., Birdsboro.
Hertzog, C. Frank, Oley.
Hetrich, George, Birdsboro.
High, Isaac B., 254 West Douglass St.
Hill, Samuel S., Wernersville.
Hunsberger, William E., Maiden Creek.
Huyett, M. Luther, Shillington.
Kauffman, John W., 814 North Eleventh St.
Kehl, George W., 418 North Tenth St.
Kieffer, Elmer C., 900 North Fifth St.
Koch, Morris H., Lyons.
Krum, Octavia L., Wernersville.
Kurtz, Clarence M., 304 South Fifth St.
Kurtz, J. Ellis, 22 South Fifth St.
Kurtz, Samuel L., 412 South Fifth St.
Lechner, LeRoy Y., Bechtelsville.
LeFevre, Rufus E., 138 South Eighth St.
Leinbach, Howard Milton, 228 North Fifth St.
Levan, George K., 300 South Fifth St.
Livingood, William W., 818 North Third St.
Longaker, Daniel, 344 North Fifth St.
Loose, Charles G., 120 North Fifth St.
Ludwig, J. Henry, Boyertown.
Lytle, Frank P., Birdsboro.
Madeira, James D., 247 North Fifth St.
Mattern, Fred L. R., Fleetwood.
Matternes, James G., Sinking Spring.
Meter, Edward G., 948 Penn St.
Miller, Howard U., West Leesport.
Muhlenberg, Hiester H., 323 North Fifth St.
Muhlenberg, William F., 34 South Fifth St.
Newcomet, Isaac W., Stouchsburg.
Overholser, George W., 309 North Ninth St.
Potteiger, George F., Hamburg.
Potteiger, Jonathan B., Hamburg.
Quickel, Herbert L., Morgantown.
Reeser, Howard S., 111 South Fifth St.
Rentschler, Harry F., 228 North Sixth St.
Rhoads, Thomas J. B., Boyertown.
Rhode, Homer J., 220 North Sixth St.
Roland, Charles, 105 South Fifth St.
Rothrock, Addison M., Neversink Mountain Tuberculosis Sanatorium, Reading.
Runyeon, Frank G., 1390 Perkiomen Ave.
Saul, Henry W., Kutztown.
Schaeffer, Edwin D., 317 South Sixth St.
Schaeffer, Harry B., Shillington.
Schlappich, Charles E., Bernville.
Schlemm, Horace E., 248 North Tenth St.
Schmehl, Seymour T., 110 North Ninth St.
Seaman, John K., 325 A North Ninth St.
Shearer, Christopher H., 206 North Fifth St.
Shearer, James Y., Sinking Spring.
Shearer, Wayne L., 101 Greenwich St.
Shenk, George R., 116 South Ninth St.
Shetter-Keiser, Clara, 36 North Tenth St.
Shoemaker, Ira G., 19 South Ninth St.
Sondheim, Sidney J., 1044 North Tenth St.
Stamm, Allison A., Mohnton.
Taylor, S. Banks, 140 Oley St.

Wagner, Jesse L., 152 North Sixth St.
Wenger, LeRoy J., 1108 North Eleventh St.
Wagner, Levi F., 610 North Tenth St.
Wenrich, George G., Wernersville.
Wenrich, John Adam, Wernersville.
Werley, Charles D., Topton.
Wheeler, Lucia Anna, Wernersville.
Wickert, Victor W., 1009 Penn St.
Ziegler, John George, 340 South Third St.
Zook, Joseph Allen, Morgantown.

BLAIR COUNTY SOCIETY.

(Organized July 25, 1848.)

(Altoona is the post office when street address only is given.)

President...William L. Lowrie, Tyrone.
V. Pres.....William H. Morrow, Bellwood.
H. H. Brotherlin, Hollidaysburg.
Secretary...Chas. F. McBurney, 710 Ninth St.
Cor. Sec.
and Rept....Charles W. Delaney, 1320 Ninth St.
Treasurer...William S. Ross, 1216 Twelfth Ave.
Censors.....Samuel L. McCarthy, 1331 Eighth Ave., 1 yr.
W. A. Nason, Roaring Spring, 2 yrs.
J. E. Smith, 330 Fourth Ave., 3 yrs.
Com. on Pub.
Policy and
Legislation..H. H. Brotherlin, Hollidaysburg.
W. Albert Nason, Roaring Spring.
James E. Smith, 330 Fourth Ave.

Stated meetings held in University Clubhouse, Altoona, the fourth Tuesday of every month, except September, in which month meeting is held on third Thursday at 3 P.M.

MEMBERS (81).

Alleman, George E., 2310 Broad Ave.
Allen, David E., 1325 Eighth Ave.
Arnold, James F., Williamsburg
Beck, William Frank, 1933 W. Chestnut Ave
Blair, Ada, Central Trust Bldg.
Bliss, Gerald D., 310½ Howard Ave.
Bloomhardt, Fred H., 1907 Eighth Ave.
Blose, Joseph U., 401 Howard Ave.
Bonebreak, John S., Martinsburg.
Brotherlin, Henry H., Hollidaysburg.
Brubaker, John L., Juniata.
Brumbaugh, Arthur S., 1314 Tenth St.
Burket, Clair W., 523 Fourth St.
Burket, George W., Tyrone.
Confer, D. Clarence, Duncansville.
Crawford, James C., Cabazon, Cal.
Cunningham, Harry B., Juniata.
Delaney, Charles Walter, 1320 Ninth St.
Eldon, Roswell T., 940 Seventeenth St.
Fetter, Eugene C., Winter Haven, Fla.
Findley, Joseph D., 802 Twelfth Ave.
Ford, Frank A., 1119 Twelfth Ave.
Giacchelli, Peter, 715 Eighth Ave.
Glover, Samuel P., 1118 Twelfth Ave.
Haagen, David F., 914 Seventeenth St.
Haberacker, Eugene O., 2222 Seventh Ave.
Hillis, Robert J., N. W. Cor. Fourth Ave. and Sixth St., Juniata.
Hogue, Davis A., 922 Seventeenth St.
Hogue, John D., 1408 Eleventh Ave.
Howell, William H., 602 Ninth St.
Hull, Logan Erie, 1212 Twelfth St.
Ickes, George A., 2412 Broad Ave.
Irwin, Robert C., Hollidaysburg.
Isenberg, Joseph L., Williamsburg.
Kech, Augustus Sheridan, 1209 Sixteenth St.
Kephart, Thomas A. C., 308 Fourth St.
Kauffman, David, 1119 Twelfth Ave.
Kyper, Don, 1015 Chestnut Ave.
Levengood, Brooklyn B., Bellwood.
Long, Charles, Salemville (Bedford Co.).
Loudon, Edward W., 4001 Fifth Ave.
Lowrie, William L., Tyrone.
McBurney, Charles F., 710 Ninth St.
McCarthy, Harry, 1107 Twelfth Ave.
McCarthy, Samuel L., 1331 Eighth Ave.
McCarthy, S. Lloyd, Jr., 1331 Eighth Ave.
McKee, Lewis E., 1103 Thirteenth Ave.
Maglaughlin, Wilmer K., 5 Hutchinson Block.
Menninger, William H., Juniata.
Metzgar, Carl H., 1424 Twelfth Ave.
Miller, Edwin B., 1903 Seventh Ave.
Miller, Homer C., 1202 Sixteenth St.
Morrow, Thomas M., 938 Seventeenth St.
Morrow, William H., Bellwood.
Musser, Walter F., Tyrone.
Myers, Ernest R., Saskatoon, Saskatchewan, Canada.
Nason, John B., Tyrone.
Nason, W. Albert, Roaring Spring.
Neff, Elmer E., 813 Eighth Ave.
Noss, Charles W., 1118 Seventh Ave.
Nowell, Mary E., 1315 Sixth Ave.
Oburn, Albert S., 701 Seventh Ave.
Pershing, Paul Frederick, 1203 Seventh Ave.
Robison, Clair E., 930 Seventeenth St.
Ross, William S., 1216 Twelfth Ave.
Seedenburg, Jesse P., Seventh Ave. and Twelfth St.
Shaffer, Orr H., 1116 Twelfth Ave.
Sheedy, John M., 1114 Fifteenth St.
Shoemaker, Frank R., Hollidaysburg.
Shultz, Charles Lytle, 508 Second St. Juniata.
Smith, Horace R., 1114 Thirteenth Ave.
Smith, James E., 330 Fourth Ave.
Smith, Samuel Calvin, Hollidaysburg.
Sommer, Henry J., Jr., Blair County Hospital, Hollidaysburg.
Spanogle, Albert L., 1226 Seventh Ave.
Stayer, Andrew S., 1501 Seventh Ave.
Tate, George F., 1201-3 Thirteenth Ave.
Vissel, Julius T., Roaring Spring.
Walton, Louis Stockton, 53 Central Trust Bldg.
Whittaker, Ralph R., Williamsburg.
Wilson, Thomas T., Bellwood.

BRADFORD COUNTY SOCIETY.

(Organized September 20, 1849.)

President...Wm. R. Campbell, E. Smithfield.
V. Pres.....Donald Guthrie, Sayre.
C. Melvin Coon, Laquin.
Sec. and
Reporter....Cyrus Lee Stevens, Athens
Treasurer...Francis Chaffee, Towanda.
Librarian...C. Manville Pratt, Towanda.
Censors.....T. Ben Johnson, Jr., Towanda.
John C. Lee, Herrickville.
C. Manville Pratt, Towanda.
Ferdinand A. Thompson, Towanda, R. D. 4.
Perley N. Barker, Troy.

Com. on Pub.
Policy and
Legislation..Cyrus Lee Stevens, Athens.
James W. Parsons, Canton.
Oscar H. Rockwell, Monroeton.
Com. on
Program....George H. B. Terry, Wyalusing.
Willis T. Davison, Canton.
Donald Guthrie, Sayre.

Stated meetings on second Tuesday of each month at 1:30 P.M., in the Court House, Towanda, unless otherwise ordered. Election of officers in January.

MEMBERS (42).

Badger, Samuel W., Athens.
Ballard, Mahlon B., Troy.
Barker, Perley N., Troy.
Bevan, Daniel L., Leroy.
Boyer, George E., Troy.
Campbell, William R., East Smithfield.
Chaffee, Francis, Towanda.
Conklin, Gustavus, Orwell.
Coon, C. Melvin, Laquin.
Dann, Alpheus E., Canton.
Davison, Willis T., Canton.
Down, Howard C., Wysox.
Everitt, John E., Sayre.
Glover, Henry A., Nichols, N. Y.
Gustin, Grant H., Sylvania.
Guthrie, Donald, Sayre.
Haines, Carlyle N., Sayre.
Haines, Charles A., Sayre.
Harshberger, W. Frank, New Albany.
Inslee, Fayette Lane, LeRaysville.
Johnson, Thomas B., Towanda.
Johnson, T. Ben, Jr., Towanda.
Lee, John C., Herrickville.
Means, Charles S., Towanda.
Parks, Arthur Lloyd, Rome.
Parsons, James W., Canton.
Payne, Edward D., Towanda.
Phillips, John W., Troy.
Pratt, C. Manville, Towanda.
Pratt, Frank L., R.D. 55, Wellsburg, N. Y.
Reed, Charles, Towanda.
Rice, Frederick W., Sayre.
Rinebold, Nathan A., Athens.
Rockwell, Oscar H., Monroeton.
Shepard, Ernest N., Burlington.
Stevens, Cyrus Lee, Athens.
Sumner, Porter H., Camptown.
Terry, George H. B., Wyalusing.
Thompson, Ferdinand A., Towanda, R.D. 4.
Weinberger, Nelson S., Sayre.
Woodburn, Charles M., Towanda.
Woolley, Herbert Codey, Canton.

BUCKS COUNTY SOCIETY.

(Organized June 14, 1848. Reorganized October 31, 1862.)

President...Walter H. Brown, Richlandtown.
V. Pres.....James E. Groff, Doylestown.
Joseph B. Heritage, Langhorne.
Sec., Treas.
and Rept....Anthony F. Myers, Blooming Glen.
Censors.....Walter H. Brown, Richlandtown.
George M. Grim, Ottsville.
Wm. R. Cooper, Point Pleasant.
Com. on Pub.
Policy and
Legislation..Levi S. Walton, Jenkintown.
John A. Weierbach, Quakertown.
Roscoe C. Magill, Carversville.

Stated meetings at 12 M. the second Wednesday in February at Newtown; in May at Bristol; in August at Quakertown; in November at Doylestown. Election in November.

MEMBERS (87).

Abbott, Charles Shewell, Bristol.
Abbott, Joseph de Benneville, Bristol.
Althouse, Albert C., Dublin.
Bassett, Henry Linn, Yardley.
Biehn, Andrew C., Richland Center.
Boyle, Morris P., Glenside (Montgomery Co.).
Brown, Walter H., Richlandtown.
Burkhardt, Charles N., Chalfont.
Carrell, John B., Hatboro (Montgomery Co.).
Carter, J. Morris, Eddington.
Cawley, James I., Springtown.
Coburn, E. Stevens, National City, Calif.
Collins, James, Bristol.
Cooper, William R., Point Pleasant.
Cope, F. Gurney, Upper Black Eddy.
Crewitt, John A., Newtown.
Cross, Sumner H., Jenkintown (Montg. Co.).
Dill, Mahlon B., Perkasie.
Erdman, William S., Buckingham.
Erdman, Wilson S., Quakertown.
Fell, John A., Doylestown.
Fleckenstine, Horace, Newportville.
Foulke, Richard C., Newhope.
Fox, George T., Bristol.
Fretz, Alfred E., Sellersville.
Fretz, Oliver H., Quakertown.
Fretz, S. Edward, Box 15, Whitestone, L. I., New York City.
Grim, George M., Ottsville.
Grim, Herman C., Cressman.
Groff, James E., Doylestown.
Groom, Evan J., Bristol.
Hannum, William, 1403 South Fifth St., Philadelphia (Philadelphia Co.).
Hellyer, Howard A., Penn's Park.
Heritage, Joseph B., Langhorne.
Huff, Irwin F., Sellersville.
Hunt, James Edgar, Salladasburg (Lycom.Co.).
Imhoff, Wm. H. M., Willow Grove (Montg. Co.).
Johnson, Erwin T., Hilltown.
Johnson, Henry W., Riegelsville.
Klenk, James M., Tulleytown.
LeCompte, William C., Bristol.
Lehman, Frank, Bristol.
Leinbach, Samuel A., Quakertown.
Ley, Charles L., Wycombe.
Lovett, Henry, Langhorne.
McIlhatten, Samuel Patterson, Ivyland.
Magill, Roscoe C., Carversville.
Murphy, Felix A., Doylestown.
Myers, Anthony F., Blooming Glen.
Nonamaker, Noah S., Bedminster.
O'Connell, Austin, Bucksville.
Osborne, Richard H. G., Morrisville.
Ott, John J., Pleasant Valley.
Parker, George A., Southampton.
Parker, George A., Jr., Newtown.
Plymire, I. Swartz, Doylestown.
Pownall, Elmer E., Richboro.
Pursell, Howard, Bristol.

Rice, Newton S., Durham.
Rich, Edward Y., Marietta (Lancaster Co.).
Richards, James N., Fallsington.
Ridge, Samuel LeRoy, Langhorne.
Saxe, LeRoy H., Telford (Montgomery Co.).
Scott, J. Ernest, Newhope.
Seibert, William K. 3616 North Nineteenth St., Philadelphia (Philadelphia Co.).
Slack, Julia H., Bristol.
Smith, Charles B., Newtown.
Smith, Edwin L., Hatboro (Montgomery Co.).
Stafford, Alvah M., Horsham (Montg. Co.).
Strouse, Otto H., Perkasie.
Swartzlander, Frank B., Doylestown.
Swartzlander, Joseph R., Doylestown.
Thomas, Harry L., Langhorne.
Wagner, J. Frederick, Bristol.
Walter, Clarence A., Glenside (Montg. Co.).
Walter, Joseph B., Solebury.
Walter, J. Willis, Point Pleasant.
Walton, Levi S., Jenkintown (Montg. Co.).
Wareham, Arthur, Morrisville.
Weaver, Milton E., South Perkasie.
Weierbach, John A., Quakertown.
Weisel, William F., Richland Center, R.D. 2.
Wetmore, Stephen S. P., Morrisville.
Wilkinson, William J., Colmar (Montg. Co.).
Wilson, Abram S., Bristol.
Winder, Lawrence J., Andalusia.
Winder, William G., 1504 Spruce St., Philadelphia (Philadelphia Co.).

BUTLER COUNTY SOCIETY.

(Organized January 3, 1867.)

President...E. E. Campbell, Butler.
V. Pres.....Mary P. Brooke, Butler.
G. A. Brandberg, Butler.
Sec. and
Reporter....William B. Clark, Butler.
Treasurer...M. Edward Headland, Butler.
Librarian...Elgie L. Wasson, Butler.
Censors.....William B. Clark, Butler.
James C. Boyle, Butler.
Harry P. St. Clair, Butler.
J. Clinton Atwell, Butler.
Robert B. Greer, Butler.
Com. on Pub.
Policy and
Legislation..Charles F. Daubenspeck, Butler.
James C. Boyle, Butler.
Ephriam E. Campbell, Butler.

Stated meetings in Butler, the second Tuesday in each month. Election of officers in January.

MEMBERS (46).

Atwell, J. Clinton, Butler.
Boyle, James C., Butler.
Brandberg, Guy A., Butler.
Brooke, Mary P., Butler.
Campbell, Ephriam E., Butler.
Campbell, John S., West Sunbury.
Campbell, Willard B., Harrisville.
Christie, James L., Conoquenessing.
Clark, William B., Butler.
Cowden, John V., Butler.
Daubenspeck, Chas. F., 226 N. Main St., Butler.
de Long, Francis E., West Sunbury, R.D. 50.
DeWolf, Willard L., Butler.
Doane, L. Leo, Butler.
Dombart, Nicholas A., Evans City.
Edmonds, Andrew J., Bruin.
Elrick, Robert B., Petrolia.
Greer, Robert B., Butler.
Grossman, Robert J., Butler.
Grossman, William J., Butler.
Hazlett, Leslie R., Box 194, Butler.
Headland, M. Edward, Butler.
Heilman, Arthur M., Butler.
Hockenberry, Harvey D., West Sunbury.
Hockenberry, W. Rush, Slippery Rock.
Holman, Albert, 407 West Clay St., Butler.
Lasher, Weston W., Saxonburg.
McClelland, C. S., 131 E. Diamond St., Butler.
McConnell, Walter W., Harrisville.
Mathiott, George H., Mars.
Maxwell, Thomas McCullough, Butler.
Neely, Henderson J., Butler.
Pisor, O. P., 215 S. Main St., Butler.
Purvis, Joseph D., 140 E. Jefferson St., Butler.
St. Clair, Harry P., 215 South Main St., Butler.
Simpson, Egbert T., East Butler.
Stewart, Arthur I., Harmony.
Thomas, Victor F., Evans City.
Thompson, James B., Prospect.
Thompson, Raymond A., Butler.
Wasson, Elgie L., Butler.
Williams, Olin A., Butler.
Wilson, Harry M., Evans City.
Wilson, Harry R., Callery.
Young, Clinton M., Queens Junction.
Ziegler, Alfred Henry, Butler.

CAMBRIA COUNTY SOCIETY.

(Organized 1852. Reorganized 1868 and 1882.)

President...William O. Lubken, Johnstown.
V. Pres.....Calvin C. Rush, Portage.
Harvey M. Griffith, E. Conemaugh.
Sec. and
Reporter....Harry J. Cartin, Johnstown.
Treasurer...Francis Schill, Johnstown.
Censors.....Francis Schill, Johnstown.
Henson F. Tomb, Johnstown.
Clarence B. Millhoff, Johnstown.
Com. on Pub.
Policy and
Legislation..George W. Wagoner, Johnstown.
Fremont C. Jones, Ebensburg.

Stated meetings every second Thursday at 3 P.M., at Johnstown. Officers elected in December and installed in January.

MEMBERS (95).

Akers, Andrew Franklin, Gallitzin.
Anderson, Guy R., Barnesboro.
Barker, Olin G. A., 804 Johnstown Trust Bldg., Johnstown.
Barnett, Geo. Watson, 435 Lincoln St., Johnstown.
Barr, John W., Nanty Glo.
Beatty, Arthur W., Colver.
Bennett, Harry J., Ebensburg.
Blair, Walter Allen, Patton.
Blaisdell, Irving C., Wilmore.
Born, Charles E., Johnstown.
Brallier, Stanley A. E., Conemaugh.
Brinham, Alfred W., Scalp Level.
Burkhart, Ephraim J., Johnstown.
Caldwell, John D., Ebensburg.
Carlisle, Henry Lorain, Windber (Somerset Co.
Cartin, Harry J., Johnstown.

Cleaver, Philip R., Johnstown Trust Building, Johnstown.
Comerer, Jacob Alvin, 303 E. Twentieth St., New York.
Davis, Robert C., 214 Market St., Johnstown.
Dunsmore, Albert E., Barnesboro.
Ealy, E. T., Barnesboro.
Ferguson, Frank U., Gallitzin.
Fichtner, Albon S., Johnstown.
Fichtner, Allan Ellsworth, 217 Fairfield Ave., Johnstown.
Fisher, Daniel E., Needmore (Fulton Co.).
Fitzgerald, Clyde A., South Fork.
Glass, Joseph H., South Fork.
Griffith, Harvey M., East Conemaugh.
Gurley, Lycurgus M., 406 Main St., Johnstown.
Haight, William D., Johnstown.
Hammer, Charles M., Johnstown.
Hannan, Charles E., Johnstown.
Harris, Clarence M.,604 Johnstown Trust Bldg., Johnstown.
Hay, George, Johnstown.
Hays, Charles Elliott, Johnstown.
Helfrick, T. Orlando, Spangler.
Horowitz, Max, Johnstown.
Jefferson, James, Johnstown.
Jones, Emlyn, Johnstown.
Jones, Fremont C., Ebensburg.
Jones, Leighton Wherry. Johnstown.
Keiper, Jacob D., Johnstown.
Koontz, James S., Johnstown.
Kress, Frederick C., Ellis Bldg., Main St., Johnstown.
Kring, Sylvester S., Johnstown.
Leech, A. Wallace, Beaverdale.
Livingston. Frank J., Salix.
Longwell, Benton Elkins, Johnstown.
Lowe, Edwin H., Scalp Level.
Lowman, John Bodine, Johnstown.
Lubken, William Oscar, Johnstown.
Lynch, James A., Cresson.
McAneny, John B., Johnstown.
McMillen, John C., Barnesboro.
Matthews, William E., Johnstown.
Mayer, Louis H., Johnstown.
Mendenhall, Thomas E., Beaverdale.
Metherell, Gomer E., Conemaugh.
Miller, Edward L., Johnstown.
Millhoff, Clarence B., Johnstown.
Murray, John A., Patton.
Murray, Valesius A.. Patton.
Nickel, Harry G., Johnstown.
Palmer, Melville Mack.
Pardoe, Edward, South Fork.
Penrod, Harry Hartzell, Johnstown.
Porch, George B., Johnstown.
Porch, Latshaw Lynn,221 Broad St., Johnstown.
Pringle, William N., Johnstown.
Ray, Daniel Pattee, Johnstown.
Reed, Marvin Warren, First National Bank Bldg., Colorado Springs, Colo.
Rice, Daniel S., Hastings.
Rush, Calvin Cicero, Portage.
Sagerson, John Leo, Johnstown.
Sagerson, Robert J., 643 Locust St., Johnstown.
Salus, Henry W., 225 Market St., Johnstown.
Schill, Francis, Johnstown.
Schramm. Francis M. B., Johnstown.
Shank, Orlando J., Windber (Somerset Co.).
Sloan, Ira E., Johnstown.
Smith, Augustus Edwin, South Fork.
Smith, Elizabeth Cisney, South Fork.
Somerville, Harry. Chest Springs.
Speicher, George F., Rockwood (Somerset Co.).
Statler, Frank B., Johnstown.
Stewart, Harry Myrrel, Johnstown Trust Bldg., Johnstown.
Taylor, J. Swan, Johnstown.
Tomb, Henry F., Johnstown.
VanWert, John Irving, Patton.
Wagoner, George W., Johnstown.
Wakefield, Alfred N., Johnstown.
Wheeling, William S., Spangler.
Wood, James Folwell, Barnesboro.
Woodruff, John B., Johnstown.
Worrell, Samuel W., Patton.

CARBON COUNTY SOCIETY.

(Organized April 20, 1881.)

President...Edwin H. Kistler, Lansford.
V. Pres.....Charles T. Horn, Lehighton.
J. E. Waaser, East Mauch Chunk.
Secretary...Calvin J. Balliet, Lehighton.
Treasurer...Clinton J. Kistler, Lehighton.
Reporter....James B. Tweedle, Weatherly.
Censors.....Edwin H. Kistler, Lansford.
Jacob G. Zern, Lehighton.
Wilson P. Long, Weatherly.
Com. on Pub. Policy and Legislation..Jacob G. Zern, Lehighton.
John W. Luther, Palmerton.

Stated meetings held at Mauch Chunk, the third Thursday of April. July, October and January. Place of meetings may be changed by vote of society. Election of officers in October for following year.

MEMBERS (30).

Armstrong, Alexander, White Haven (Luzerne Co.).
Balliet. Calvin J., Lehighton.
Behler, Jacob H.. Nesquehoning.
Davis, Alquin J.. Nesquehoning.
Hersh, Harold E., Palmerton.
Dreibelbis. David F., Lehighton.
Druckenmiller, Stanley F., Lansford.
Eshleman, Edward F., Parryville.
Freyman, Ira E., Weatherly.
Haberman, Charles P., Weissport.
Henry, John K., Mauch Chunk.
Hoffmeier, Howard T., Mauch Chunk.
Horn. Charles T., Lehighton.
Kasten, William H., Lansford.
Keiser, Phaon D., Lehighton. R.D. 1.
Kistler, Clinton J., Lehighton.
Kistler, Edwin H., Lansford.
Kistler. Willoughby K., Lehighton.
Kutz, Wilson L., Weissport.
Long, Wilson P., Weatherly.
Luther, John W., Palmerton.
Moyer. Louis W., Mauch Chunk.
Ruch, Charles F., Summit Hill.
Sitler, Warren C., Lehighton, R.D. 1.
Smith, Lawrence H., Hazleton (Luzerne Co.).
Trexler, Jacob A., Lehighton.
Tweedle, James B.. Weatherly.
Waaser, John E., East Mauch Chunk.
Young, J. Harrington. Lansford.
Zern, Jacob G,, Lehighton.

CENTER COUNTY SOCIETY.

(Organized April 4, 1876.)

President...John V. Foster, Center Hall.
V. Pres.....William U. Irwin, Fleming.
Samuel G. Coons, Stormstown.
Sec. and
Treasurer...Robert G. H. Hayes, Bellefonte.
Reporter....James L. Seibert, Bellefonte.
Censors.....William U. Irwin, Fleming.
Scott M. Huff, Milesburg.
Edward S. Dorworth, Bellefonte.
Com. on Pub.
Policy and
Legislation..Melvin J. Locke, Bellefonte.
David Dale, Bellefonte.
Scott M. Huff, Milesburg.

Stated meetings the second Wednesday of each month at 10 A.M. in the Court House, Bellefonte. Election of officers in January.

MEMBERS (31).

Allen, Charles L., Lemont.
Allison, John R. G., Center Hall.
Braucht, Harvey S., Spring Mills.
Bright, John W., Rebersburg.
Brockerhoff, Joseph M., Bellefonte.
Coons, Samuel G., Stormstown.
Dale, David, Bellefonte.
Dale, Peter Hoffer, State College.
Dorworth, Edward Samuel, Bellefonte.
Foster, John V., Center Hall.
Frank, George S., Millheim.
Glenn, William S., State College.
Hardenbergh, John A., Millheim.
Harris, Edward H., Snow Shoe.
Hayes, Robert G. H., Bellefonte.
Hayes, Thomas R., Bellefonte.
Huff, Scott M., Milesburg.
Irwin, William U., Fleming.
Kidder, Lincoln E., Boalsburg.
Kipe, Wilmer, Doylestown (Bucks Co.).
Kurtz, Walter J., Howard.
Locke, Melvin J., Bellefonte.
McEntire, Oscar W., Howard.
Musser, C. Sumner, Aaronsburg.
Russell, Edward A., Fleming.
Sebring, John, Bellefonte.
Seibert, James L., Bellefonte.
Shelley, P. H., Hublersburg.
Thompson, James A., Port Matilda.
Woods, George H., Pine Grove Mills.
Young, Robert J., Snow Shoe.

CHESTER COUNTY SOCIETY.

(Organized February 5, 1828.)

President...H. Y. Pennell, East Downingtown.
V. Pres.....John A. Farrell, West Chester.
A. Wayne Baugh, Paoli.
Secretary...Joseph Scattergood, West Chester.
Treasurer...Mary H. Smith, Parkesburg.
Reporter. ..D.E.Hutchison, East Downingtown.
Censors. ...Edward Kerr, East Downingtown.
S. Horace Scott, Coatesville.
Chas. E. Woodward, West Chester.
Com. on Pub.
Policy and
Legislation..Edward Kerr, East Downingtown.
Joseph Scattergood, West Chester.
Elwood Patrick, West Chester.

Stated meetings at 2:30 P.M on the second Tuesday of January, May and September at West Chester; second Tuesday of March, July and November at Coatesville. Election of officers in January.

MEMBERS (65).

Aiken, James, Berwyn.
Aiken, Thomas Gerald, Berwyn.
Baker, Jane R., West Chester.
Barry, Chester LeRoy, Oxford.
Baugh, A. Wayne, Paoli.
Betts, William W., Chadds Ford (Del. Co.).
Bringhurst, Joseph, West Chester.
Bullock, Charles C., Chatham.
Burkartmaier, John H., Avondale.
Carey, Robert B., Glenlock.
Carmichael, Arthur W., Coatesville.
Catanach, Notman, G., West Chester.
Corson, Linwood S., Glenmore.
Evans, John K., Malvern.
Eves, James S., New London.
Ewing, William B., West Grove.
Farrell, John A., West Chester.
Gifford, U. Grant, Avondale.
Graves, Everett A., Coatesville.
Hemphill, Joseph, Jr., West Chester.
Hoskins, Percy C., West Chester.
Howard, Robert W., Atglen.
Hughes, Robert C., Paoli.
Hutchison, D. Edgar, East Downingtown.
Johnson, John H., Unionville.
Kane, Bayard, West Chester.
Kerr, Edward, East Downingtown.
Klevan, Oscar Jesse, Unionville.
Kurtz, Clarence S., Malvern.
Liebermann, Jacob D., West Grove.
Mackey, David, Oxford.
MaGraw, George T., Avondale.
Maxwell, James Rea, Parkesburg.
Merryman, John W., Toughkenamon.
Mullison, Edwin D. S., Phoenixville.
Murphy, Walter A., Parkesburg.
Patrick, Elwood, West Chester.
Pennell, Howard Y., East Downingtown.
Perdue, William R., West Chester, R.D. 5.
Pleasants, Henry, Jr., West Chester.
Rea, Samuel L., Oxford.
Rettew, David P., Coatesville.
Reynolds, Conrad S., Kennett Square.
Richmond, Thomas S., Guthriesville.
Roberts, Charles J., Clayton, Delaware.
Rothrock, Harry A., West Chester.
Rothrock, Joseph T., West Chester.
Scattergood, Joseph, West Chester.
Scott, J. Clifford, Oakbourne.
Scott, S. Horace, Coatesville.
Sharpless, William T., West Chester.
Shively, James B., West Chester.
Smith, Mary H., Parkesburg.
Spratt, George R., Coatesville.
Stone, Charles H., Coatesville.
Taylor, James T., Pomeroy.
Taylor, Jackson, Coatesville.
Thomas, John G., Newtown Square (Del. Co.)
Umstead, George B., Phoenixville.
Walker, James, Hamorton.
Wherry, C. Norwood, Chatham.

Williams, Della Hannah, Berwyn.
Witmer, Chester A., West Chester.
Woodward, Charles E., West Chester.
Woodward, W. Wellington, West Chester.

CLARION COUNTY SOCIETY.

(Organized May 5, 1865.)

President...Cuvier L. Clover, Knox.
V. Pres.....E. K. Shumaker, New Bethlehem.
Secretary...Franklin P. Phillips, Clarion.
Treasurer...William M. Clover, Knox.
Reporter....Robert A. Walker, West Monterey.
Censors.....Charles W. Hoffman, Rimersburg.
David L. McAninch, Lamartine.
Benjamin G. Wilson, Clarion.
Com. on Pub.
Policy and
Legislation..William M. Clover, Knox.

Stated meetings at selected places the fourth Tuesday in April, July and October. Annual meeting at Clarion the fourth Tuesday of January.

MEMBERS (36).

Booth, Fred K., Fairmount City.
Brown, James A., New Kensington (Westmoreland Co.).
Brown, J. M. E., New Bethlehem.
Brown, Sloan A., Foxburg.
Clover, Cuvier L., Knox.
Clover, William M., Knox.
Dillenbeck, Charles O., Strattonville.
Fitzgerald, John M., Clarion.
Greer, Robert J., East Brady.
Hepler, Albert J., New Bethlehem.
Hepler, Charles Verne, Hawthorn.
Hess, Henry N., Fryburg.
Hoffman, Charles W., Rimersburg.
Hoover, Albert M., Parkers Landing (Armstrong Co.).
Kahle, Dana, Knox.
Lackey, S. J., Limestone.
McAninch, David Lewis, Lamartine.
Meals, Nelson M., Callensburg.
Miller, John B., Sligo.
O'Dell, Lee, Tylersburg.
Phillips, Benjamin W., Leeper.
Phillips, Franklin Pierce, Clarion.
Rimer, John T., Clarion.
Ross, Charles C., Clarion.
Sayers, Clement E., Hawthorn.
Shumaker, Edgar K., New Bethlehem.
Shumaker, Philip W., New Bethlehem.
Spencer, Robert L., Sligo.
Stute, John E., Parkers Landing (Arms.Co.).
Summerville, Harvey Bruce, Rimersburg.
Walker, Byron P., West Monterey.
Walker, Robert A., West Monterey.
Wallace, Robert S., East Brady.
Wallace, Wilbur S., East Brady.
Wilson, Benjamin G., Clarion.
Woods, George B., Curllsville.

CLEARFIELD COUNTY SOCIETY.

(Organized September 27, 1864. Chartered May 8, 1894.)

President...J. Frank Rowles, Mahaffey.
V. Pres.....William C. Browne, Burnside.
Sec. and
Reporter....George B. Kirk, Kylertown.
Asst.Sec.and
Editor......George Edmund Mauk, Woodland.
Treasurer...Hiram O. King, Curwensville.
Censors.....Luther W. Quinn, Dubois, 1913.
Francis G. Bennett, Clearfield, 1914.
Samuel D. Baily, Clearfield, 1915.
Com. on Pub.
Policy and
Legislation..Jas. L. Henderson, Osceola Mills.
Samuel C. Stewart, Clearfield.

Stated meetings the second Wednesday of each month at various places in the county. Election of officers in December.

MEMBERS (45).

Baily, Samuel D., Clearfield.
Bennett, Francis G., Clearfield.
Blair, H. Albert, Curwensville.
Brockbank, John I., Dubois.
Browne, William C., Burnside.
Cowdrick, Arthur D., Clearfield.
Dale, John, Philipsburg (Center Co.).
Dinger, Michael C., Morrisdale Mines.
Gann, George Willard, Dubois.
Gordon, John, Clearfield.
Harman, L. Cooper, Philipsburg (Center Co.).
Hayes, Senes E., Byrnedale (Elk Co.).
Henderson, James L., Osceola Mills.
Henderson, Wm. B., Philipsburg (Center Co.).
Howe, J. Fred, Munson.
Hurd, Michael E., Mahaffey.
King, Hiram O., Curwensville.
Kirk, George B., Kylertown.
Leipold, Bert E., Clearfield.
Lynn, Austin C., Osceola Mills.
McGirk, Charles E., Philipsburg (Center Co.).
McNaul, C. Gleni, Glen Richey.
Mauk, George Edmund, Woodland.
Miller, James A., Grampian.
Miller, Summerfield J., Madera.
Park, Milo E., Westover.
Patterson, Floyd G., Dubois.
Piper, William S., Clearfield.
Quigley, John M., Westover.
Quinn, Luther W., Dubois.
Read, Frederick B., Osceola Mills.
Reiley, William E., Clearfield.
Ricketts, George Allen, Smithmill.
Rowles, J. Frank, Mahaffey.
Rowles, Luther C., Grampian.
Seabury, William W., Dubois.
Shivery, George B., Woodland.
Stewart, Samuel C., Clearfield.
Thompson, Harry H., Philipsburg (Center Co.).
Thorpe, Walter P., Windburne.
Waterworth, Samuel J., Clearfield.
Wilson, Ward O., Clearfield.
Woodside, Harry A., Lumber City.
Woodside, Horatio L., Mahaffey, R.D. 1.
Yeaney, Gillespie B., Clearfield.

CLINTON COUNTY SOCIETY.

(Organized 1866. Reorganized 1883.)

President...Howard S. Kinne, Loganton.
V. Pres.....Wm. E. Welliver, Lock Haven.
Sec., Treas.
and Rept....Robert B. Watson, Lock Haven.
Censors.....Joseph M. Corson, Chatham Run.
Francis P. Ball, Lock Haven.
Saylor J. McGhee, Mill Hall.

Com. on Pub.
Policy and
Legislation..Charles L. Fullmer, Renovo.
Theodore E. Teah, Renovo.

Stated meetings in Lock Haven Hospital the fourth Friday of each month at 11 A.M. Election of officers in January.

MEMBERS (22).

Ball, Francis P., Lock Haven.
Corson, Joseph M., Chatham Run.
Critchfield, John B., Lock Haven.
Dumm, John M., Mackeyville.
Dwyer, Francis P., Renovo.
Fullmer, Charles L., Renovo.
Gilmore, John K., Renovo.
Green, George D., Lock Haven.
Halloway, Luther M., Salona.
Huston, Joseph H., Clintondale.
Kinne, Howard S., Loganton.
Liken, Loyal L., Flemington.
Lubrecht, James Louis, Lock Haven.
McGhee, Saylor J., Mill Hall.
Mervine, Graydon D., Bitumen.
Painter, Allen B., Mill Hall.
Roach, Thomas E., Renovo.
Rosser, Orin H., Renovo.
Shoemaker, William H., Lock Haven.
Teah, Theodore E., Renovo.
Watson, Robert B., Lock Haven.
Welliver, William E., Lock Haven.

COLUMBIA COUNTY SOCIETY.

(Organized June 31, 1858.)

President...Heister V. Hower, Mifflinville.
V. Pres.....Joseph Cohen, Berwick.
John M. Gemmell, Millville.
Sec., Treas.
and Rept....Luther B. Kline, Catawissa.
Librarian...John W. Bruner, Bloomsburg.
Censors.....J. Elmer Shuman, Bloomsburg.
John H. Bowman Berwick.
C.K. Albertson, Fairmount Springs.
Com. on Pub.
Policy and
Legislation..Samuel B. Arment, Bloomsburg.
James R. Montgomery, Bloomsburg.
J. Stacey John, Bloomsburg.

Stated meetings at Bloomsburg second Thursday of March, June, September and December; at Berwick second Thursday in February, May, August and November; at Catawissa second Thursday in January, April, July and October. Election of officers in December.

MEMBERS (41).

Albertson, Charles K., Fairmount Springs (Luzerne Co.).
Altmiller, Charles F., Bloomsburg.
Arment, Samuel B., Bloomsburg.
Bierman, Henry, 38 W. Fourth St., Bloomsburg.
Bowman, John H., Berwick.
Brown, J. Jordan, Bloomsburg.
Bruner, John W., Bloomsburg.
Carl, Allen Vincent, Numidia.
Christian, Howard S., Millville.
Cohen, Joseph, Berwick.
Davis, Edward L., Berwick.
Follmer, George Elmer, Orangeville.
Follmer, J. Brooks, Berwick.
Gardner, Benjamin Franklin, Bloomsburg.
Gemmell, John Michael, Millville.
Glenn, Edwin A., Berwick.
Harter, Theodore C., Bloomsburg.
Hensyl, William C., Berwick.
Hess, Delbert M., Rohrsburg.
Hoffa, John Sidney, Benton.
Hower, Heister V., Mifflinville.
John, J. Stacey, Bloomsburg.
Kline, Luther B., Catawissa.
Lazarus, J. Sanderson, Bloomsburg.
McDonald, John T., 213 W.Fifth St.,Bloomsburg.
Miller, Ralph E., Bloomsburg.
Montgomery, James R., Bloomsburg.
Patterson, Isaac E., Benton.
Pfahler, J. Fred, Berwick.
Robbins, Clifton Z., Bloomsburg.
Sharpless, Benjamin F., Catawissa.
Shuman, Ambrose, Catawissa.
Shuman, J. Elmer, Bloomsburg.
Steck, Charles T., Berwick.
Vance, William T., Orangeville, R.D.
Vastine, George H., Catawissa.
Vastine, J. Marion, Catawissa.
Warntz, Ralph E., Nescopeck (Luzerne Co.).
Willits, Isaiah W., Bloomsburg.
Wintersteen, John C., Numidia.
Wolfe, Isaac R., Espy.

CRAWFORD COUNTY SOCIETY.

(Organized 1867).

President...Rodney S. Smith, Saegerstown.
V. Pres.....John K., Roberts, Meadville.
Frank A. Clawson, Meadville.
Sec., Treas.
and Rept....Cornelius C. Laffer, Meadville.
Censors.....Clarence C. Hill, Meadville.
J. Russell Mosier, Meadville.
Samuel J. Dickey,Blooming Valley.
Com. on Pub.
Policy and
Legislation..Winters D. Hamaker, Meadville.
A. Wilbur Clouse, Geneva.
Margaret Blanche Best, Meadville.

Stated meetings in Meadville the first Wednesday of each month. Election of officers in January.

MEMBERS (48).

Best, Margaret Blanche, Meadville.
Brittain, William C., Cochranton.
Brophy, Edwin E., Meadville.
Brush, Harry L., Conneaut Lake.
Burgwin, Charles W., Guy's Mills.
Carpenter, Meade C., Linesville.
Clark, Robert W., Venango.
Clawson, Frank A., Meadville.
Clouse, Arne Wilbur, Geneva.
Coulter, Jay C., Cochranton.
Daniels, Henry M., Woodcock.
Dennis, Alfred L., Conneautville.
Dickey, Samuel J., Blooming Valley.
Ellison, George W., Townville.
Ferer, Charles K., Meadville.
Gamble, R. Bruce, Meadville.
Gamble, William M., Little Cooley.
Gray, M. Dwight, Cambridge Springs.
Greenfield, Robert N., Penn Line.
Hamaker, Winters D., Meadville.
Hazen, Sylvester F., Hartstown.
Hill, Clarence C., Meadville.
Humphrey, Glennis E., Cambridge Springs.
Hyskell, William E., Meadville.

Jackson, Oliver H., Meadville.
Johnson, William Mount, Warren (Warren Co.).
Laffer, Cornelius C., Meadville.
Lewis, Frank L., Atlantic.
Little, Theodore A., Centerville.
Logan, James Clark, Titusville.
McCune, Fred K., Mosiertown.
McFate, J. Charles, Meadville.
Mosier, J. Russell, Meadville.
Mumford, Mary D., Meadville.
Nisbet, Frederick L., Meadville.
Quay, William H., Jr., Townville.
Roberts, John K., Meadville.
Rose, Susan F., Meadville.
Shaffer, William Walter, Cochranton.
Skelton, William B., New London, Iowa.
Smith, Rodney S., Saegerstown.
Snodgrass, David G., Meadville.
Thomas, George D., Meadville.
Thompson, Charles Wesley, Meadville.
Walker, Herman H., Linesville.
Walker, James N., Linesville.
Williams, Clyde L., Harmonsburg.
Young, Frank D., Cambridge Springs.

CUMBERLAND COUNTY SOCIETY.

(Organized July 17, 1866.)

President...S. Dana Sutliff, Shippensburg.
V. Pres.....R. McMurran Shepler, Carlisle.
William S. Ruch, Carlisle.
Sec. and
Reporter....Edward R. Plank, Carlisle.
Treasurer...Jacob C. Kisner, Carlisle.
Censors.....H.W. Linebaugh, New Cumberland.
Edward S. Berry, Shippensburg.
David W. Van Camp, Plainfield.
Com. on Pub.
Policy and
Legislation..J. Bruce McCreary, Shippensburg.
Samuel E. Mowery, Mechanicsburg.
H.W. Linebaugh, New Cumberland.

Stated meetings second Tuesday of January, April, July and October; the January meeting at Carlisle; the place of the other meetings to be determined by vote of the society or upon invitation. Election of officers in January.

MEMBERS (39).

Allen, Americus R., Carlisle.
Bashore, Harvey B., West Fairview.
Berry, Edward S., Shippensburg.
Bowman, John W., Lemoyne.
Boyd, John M., Walnut Bottom.
Cadwallader, S. I., West Fairview.
Conlyn, Edwin S., Carlisle.
Dietterich, Charles D., Mt. Holly Springs.
Dougherty, Milton M., Mechanicsburg.
Emrick, M. L., Carlisle.
Good, John F., New Cumberland.
Hershner, N. W., Mechanicsburg.
Hudson, Elmer A., Carlisle.
Irwin, George G., Mount Holly Springs.
Kirkpatrick, S. A., New Cumberland.
Kisner, Jacob C., Carlisle.
Koons, Philip R., Mechanicsburg.
Lawton, Henry C., Camp Hill.
Layton, M. H., Jr., Carlisle.
Lee, Hildegard Langsdorf, Carlisle.
Lefever, Enos K., Boiling Springs.
Linebaugh, Henry W., New Cumberland.
McBride, Thomas S., Shippensburg.
McCreary, J. Bruce, Shippensburg.
McLaughlin, Perry W., Newville.
Meily, Harry S., Newville.
Mowery, Samuel E., Mechanicsburg.
Plank, Edward R., Carlisle.
Preston, T. Walbank, Balfour.
Ruch, William S., Carlisle.
Russell, W. Stewart, 31 South Third St., Harrisburg (Dauphin Co.).
Shepler, R. McMurran, Carlisle.
Shoemaker, Ferdinand, Room 510 Kittredge Bldg., Denver, Col.
Smith, Henry Albert, Mechanicsburg.
Spangler, Harry A., Carlisle.
Stem, James C., Lemoyne.
Sutliff, S. Dana, Shippensburg.
Van Camp, David W., Plainfield.
Zimmerman, George L., Carlisle.

DAUPHIN COUNTY SOCIETY.

(Organized 1868.)

(Harrisburg is the post office when street address only is given.)

President...DeWitt C. Laverty, Middletown.
V. Pres.....Wm. T. Douglass, 1154 Derry St.
Sec. and
Treasurer...Frank D. Kilgore, 2011 N. Sixth St.
Reporter....Norman B. Shepler, 270 North St.
Trustees....John W. Park, 38 N. Second St.
Charles H. Saul, Steelton.
Leon K. Graber, 926 N. Tenth St.
Censors.....William J. Middleton, 101 N. Second St., Steelton.
Charles S. Rebuck, 410 N. Third St.
J. H. Fager, Jr., 406 N. Third St.
Com. on Pub.
Policy and
Legislation..J. Edward Dickinson, Chairman, 228 N. Second St.
Wilmer R. Batt, Dept. of Health, State Capitol.
J. B. McAlister, 234 N. Third St.
H. P. Eisenhart, 1122 N. Second St.
Edwin A. Nicodemus, 1439 Derry St.

Regular meetings are held at 8:30 P.M. on the first Tuesday of every month except July and August, at the Harrisburg Academy of Medicine Building, 319 N. Second St., Library and reading room same place. Board of Governors meets last Tuesday of each month at 8:30 P.M. Election of officers in January. The Dauphin Medical Academician issued first of month.

MEMBERS (139).

Arnold, John Loy, 1509 Market St.
Baker, William C., Hummelstown.
Batdorf, Claude Wellington, 1701 N. Green St.
Batt, Wilmer R., Dept. of Health, State Capitol.
Bauder, George W., 1223 North Second St.
Bell, Howard H., Harrisburg Hospital.
Bishop, William Thomas, 211 Pine St.
Blair, Thomas S., 403 North Second St.
Bowman, Thomas E., 1541 State St.
Brown, George L., Fort Hunter.
Bryner, John H., 1408 Derry St.
Carter, C. Lennon, 59 N. Thirteenth St.
Church, Robert Reminger, Wormleysburg (Cumberland Co.).
Coble, Aaron C., Dauphin.

Cochran, John C., St. Marys (Elk Co.).
Cocklin, Charles C., 126 Walnut St.
Coover, Carson, 223 Pine St.
Coover, Frederick W., 223 Pine St.
Crampton, Charles H., 509 North Fourth St.
Crawford, Samuel M., 413 Market St.
Culp, John F., 211 Locust St.
Darlington, Emerson E., 2025 North Sixth St.
Deckard, Park A., 709 North Third St.
Deckard, Percy E., 413 Market St.
DeVenney, John C., 1115 North Second St.
Dickinson, Bayard T., 343 N. Front St., Steelton.
Dickinson, J. Edward, 228 North Second St.
Douglas, Henry Rhea, 28 N. Eighteenth St.
Douglass, William T., 1154 Derry St.
Duff, William L., 930 North Sixth St.
Earnest, Samuel F., Hummelstown.
Eisenhart, Harry P., 1122 North Second St.
Ellenberger, John Wesley, 922 N. Third St.
Evans, William P., Middletown.
Exley, Maude C., 205 State St.
Fager, John H., Jr., 406 North Third St.
Fager, V. Hummel, 410 North Second St.
Farnsler, H. Hershey, 1463 Market St.
Flowers, Claude J. B., 1609 Market St.
Fritchey, Charles A., 902 North Third St.
Fritchey, John A., 902 North Third St.
Funk, David S., 300 North Second St.
George, Henry William, Middletown.
Goldman, Louis C., 417 North St.
Goodman, Charlotte E., State Hospital.
Graber, Leon K., 926 North Third St.
Gross, Herbert F., 1412 North Second St.
Hamilton, Hugh, 315 Walnut St.
Hart, Charles V., 226 South Second St.
Hartman, Paul A., 514 North Third St.
Hassler, Samuel F., Box 324; 500 N. Second St.
Hershey, Martin L., Hershey.
Hetrick, David Joseph, 54 N. Thirteenth St.
Hottenstein, D. Edgar, Millersburg.
Isenberg, Alfred P., 413 Market St.
James, William T., 1900 North Sixth St.
Jauss, Christian E., 1323 North Sixth St.
Jeffers, Benjamin B., 36 N. Front St., Steelton.
Keene, Charles E. L., 1849 Berryhill St.
Keiter, Ira A., Wiconisco.
Kilgore, Frank D., 2011 North Sixth St.
Kremer, David N., Pa. State Lunatic Hospital.
Kunkel, George B., 118 Locust St.
Laverty, DeWitt C., Middletown.
Laverty, George L., Harrisburg Hospital.
Lawson, Edward Kirby, Penbrook.
Lehr, Monroe D., Lykens.
Lenker, Jesse L., 21 North Fourth St.
McAlister, John B., 234 North Third St.
McGowan, Hiram, 236 State St.
MacMullen, John W., 1540 Walnut St.
Manning, Charles J., 1519 North Sixth St.
Marshall, Alexander L., 516 North Fifth St.
Marshall, Leon S., Halifax.
Meals, Ezra S., Third and North Sts.
Middleton, Wm. J., 101 N. Second St., Steelton.
Miller, David I., 1839 North Sixth St.
Mish, George F., Middletown.
Moffatt, Ralph E., 219 North Second St.
Moffitt, George R., 200 Pine St.
Myers, Hewett C., 232 S. Second St., Steelton.
Morrison, Edward L., State Hospital.
Newman, Oscar A., 619 Race St.
Nicodemus, Edwin A., 1439 Derry St.
Nissley, Martin L., Hummelstown.
Oenslager, John, Jr., 711 North Third St.
Orth, Henry L., State Hospital.
Oxley, James E. T., Swab Bldg., Thirteenth and Market Sts.
Page, Arthur L., 1829 Derry St.
Park, John Walter, 38 North Second St.
Peters, Jacob M., 195 South Front St., Steelton.
Phillips, Clarence R., 1646 North Third St.
Plank, John R., 106 North Front St., Steelton.
Putt, Maurice O., Oberlin.
Rahter, J. Howard, 306 North Second St.
Raunick, John M. J., 212 Hamilton St.
Rebuck, Charles S., 410 North Third St.
Rickert, Charles M., Box 316, Millersburg.
Ridgway, Richard Frederick L., Pouch A.
Ritchie, Melanchton M., 36 S. Thirteenth St.
Ritzman, Allen Z., 812 North Sixth St.
Saul, Charles H., 30 Locust St., Steelton.
Schaeffer, Uriah R., Hummelstown.
Schaffner, Daniel Webster, Enhaut.
Seibert, William H., 31 S. Front St., Steelton.
Shaffer, Harry A., Williamstown.
Shearer, A. L., 808 North Sixth St.
Shepler, Norman Bruce, 270 North St.
Shope, Elias L., 1700 North Second St.
Shope, Jacob W., 32 S. Thirteenth St.
Shull, William M., Hummelstown.
Smith, Charles H., Linglestown.
Shumaker, Luther M., 2102 South Sixth St.
Smith, Harvey F., 130 State St.
Spencer, Herbert Alonzo, Wiconisco.
Stauffer, Charles C., 1926 Green St.
Stevens, John C., 240 South Thirteenth St.
Stites, George M., Williamstown.
Stites, Thomas H. A., 1909 North Front St.
Stull, George B., 217 Woodbine St.
Sullivan, Charles M., 1439 Market St.
Swiler, Robert D., 1331 Derry St.
Taylor, Louise H., 1800 North Third St.
Traver, David B., 145 S. Front St., Steelton.
Traver, Samuel N., 128 Locust St.
Treiman, George A., 710 North Sixth St.
Trullinger, Charles I., 2022 North Sixth St.
Ulrich, Marion, Millersburg.
Walmer, E. LeRue, 112 North Thirteenth St.
Walter, Henry B., 1317 North Third St.
West, William H., 1801 Green St.
Whipple, Earle Rogers, 241 Pine St., Steelton.
Whiticar, John H., Gipsy (Indiana Co.).
Widder, George H., 1244 Derry St.
Wiener, Hyman R., Harrisburg Hospital.
Wintersteen, Grace, State Hospital.
Wolford, Martin L., 328 Chestnut St.
Wright, William E., 206 State St.
Zimmerman, Geo. A., Fifteenth and Walnut Sts.

DELAWARE COUNTY SOCIETY.

(Organized May 30, 1850.)

President...Fred H. Evans, Chester.
V. Pres.....J. William Wood, Chester.
Secretary...C. Irvin Stiteler, Chester.
Treasurer. .Daniel W. Jefferis, Chester.
Reporter....Walter E. Egbert, Chester.
Librarians..Charles B. Shortlidge, Lima.
Amy E. White, Chester.
Censors.....J. Harvey Fronfield, Media.
Daniel J. Monlhan, Chester

H. Furness Taylor, Ridley Park.
Com. on Pub.
Policy and
Legislation..Robert S. Maison, Chester.
Jonathan L. Forwood, Chester.
Daniel W. Jefferis, Chester.

Stated meetings the second Thursday of each month at 3:30 P.M., at places selected. Election of officers in January.

MEMBERS (79).

Alger, Clarence K., Swarthmore.
Armitage, Harry M., Chester.
Baker, Frances N., Media.
Baldi, Frederick S., Collingdale.
Bing, Edward W., Chester.
Boice, Ervrit E., Moores.
Brown, Ellen E., Chester.
Bryant, F. Otis, Chester.
Bullock, Edwin C., Upland.
Campbell, Ethan A., Chester.
Cross, George H., Chester.
Crothers, George F., Marcus Hook.
Crothers, Samuel Ross, Chester.
Dalton, David, Sharon Hill.
Darlington, Horace, Concordville.
Dewees, A. Lovett, Haverford (Montg. Co.).
Dick, H. Lenox H., Darby.
Dickeson, Morton P., Media.
Dietz, Charles K., Chester.
Donahoo, Harry C., Chester.
Dooling, Henry C., Norwood.
Dunn, Louis S., Chester.
Easby, Alice Rogers, Media.
Egbert, Walter E., Chester.
Elgin, William F., Glenolden.
Evans, Fred H., Chester.
Evans, William, Chester.
Evans, William Knowles, Chester.
Eynon, John Schofield, Chester.
Feigley, Harvey P., Eddystone.
Forwood, Jonathan Larkin, Chester.
Fronfield, J. Harvey, Media.
Gallagher, Harry, Glenolden.
Gottschalk, Leon, Marcus Hook.
Gray, Stoddard P., Chester.
Harbridge, D. Forest, Chester.
Harvey, E. Marshall, Media.
Hiller, Hiram M., Chester.
Hitchens, Arthur Parker, Glenolden.
Hoopman, Sylvester V., Chester.
Horning, Henry, 28 Chestnut Terrace, Philadelphia (Philadelphia Co.).
Howell, Elizabeth W., Chester.
Hunlock, Fred S., Collingdale.
Janvier, George Victor, Lansdowne.
Jefferis, Daniel W., Chester.
Johnston, Frank E., Moores.
Kalbach, I. Irwin, R. D. 2, Media.
Landry, Walter A., Chester.
LaShelle, Charles L., Lenni Mills.
Lehman, William F., Chester.
Lewis, Mary R. Hadley, Swarthmore.
Lyons, J. Chalmers, Glen Riddle.
Maison, Robert S., Chester.
Makuen, G. Hudson, 1627 Walnut St., Philadelphia (Philadelphia Co.).
Monihan, Daniel J., Chester.
Morton, Alexander R., Morton.
Neufield, Maurice A., Chester.
Nothnagle, Frank R., Chester.
Orr, Adrian V. B., Chester.
Partridge, Conrad L., Ridley Park.
Pyle, Jerome L., Gradyville.
Raiman, William A., Swarthmore.
Reynolds, Victor M., Darby.
Roxby, John Byers, Swarthmore.
Schoff, Charles H., Media.
Sherman, Jeannette H., Ridley Park.
Shortlidge, Charles B., Lima.
Smith, Norman D., Rutledge.
Stanton, Herbert C., Clifton Heights.
Starbuck, J. Clinton, Media.
Stellwagen, Thomas C., Media.
Stiteler, C. Irvin, Chester.
Taylor, H. Furness, Ridley Park.
Trimble, Samuel, Newtown Square.
Ulrich, Katharine, Chester.
Webb, Walter, Swarthmore.
Weidner, Frances, Media.
White, Amy E., Chester.
Wood, J. William, Chester.

ELK COUNTY SOCIETY.

(Organized 1881.)

President...Arthur F. Davis, St. Marys.
V. Pres.....Samuel G. Logan, Ridgway.
F. R. Humphreys, Brockwayville.
Secretary...Stanley Barratt, Wilcox.
Reporter....Samuel G. Logan, Ridgway.
Treasurer...Alfred Müllhaupt, St. Marys.
Censors.....Samuel G. Logan, Ridgway.
Stanley Barratt, Wilcox.
F. R. Humphreys, Brockwayville.
Com. on Pub.
Policy and
Legislation..John Craig McAllister, Ridgway.
Clarence G. Wilson, St. Marys.
Russell P. Heilman, Emporium.

Stated meetings by appointment the second Thursday of each month at Johnsonburg, Ridgway, St. Marys, or Emporium. Election of officers in January.

MEMBERS (28).

Barratt, Stanley, Wilcox.
Beale, Bertram A., Driftwood (Cameron Co.).
Black, Walter M., St. Mary's.
Bush, Walter H., Emporium (Cameron Co.).
Corbett, Vander K., Driftwood (Cameron Co.).
Crum, Howard C., St. Marys.
Davis, Arthur F., St. Marys.
Earley, Francis G., Ridgway.
Falk, H. S. Emporium (Cameron Co.).
Flynn, James G., Ridgway.
Grounds, Wilbert Lee, Emporium (Cameron Co.).
Heilman, Russell P., Emporium (Cameron Co.).
Humphreys, Frank R., Brockwayville (Jefferson Co.).
Hutchison, George M., Dagus Mines.
Logan, Samuel G., Ridgway.
McAllister, John Craig, Ridgway.
Müllhaupt, Alfred, St. Marys.
Neff, Charles C., St. Marys.
Palmer, William R., Johnsonburg.
Rankin, Michael M., Ridgway.
Russ, Eben J., St. Marys.
Rutherford, James E., Ridgway.
Sharp, Eugene B., Johnsonburg.
Shaw, Walter C., Ridgway.

Smith, Henry H., Johnsonburg.
Wells, James H., Wilcox.
Williams, Walter L., Ridgway.
Wilson, Clarence G., St. Marys.

ERIE COUNTY SOCIETY.

(Reorganized June 25, 1895.)

(Erie is the post office when street address only is given.)

President...C.G. Strickland, 153 W. Seventh St.
V. Pres.....G. W. Schlindwein, 133 W.Ninth St.
Secretary...Judson M. Burt, 814 Sassafras St.
Reporter....Harrison A. Dunn, 132 W.Ninth St.
Treasurer...Frank Gamon, 126 E. Sixth St.
Librarian...Fred E. Ross, 2012 Peach St.
Censors.....Owen M. Shreve, 162 W. Eighth St.
D.H. Strickland, 153 W.Seventh St.
G. A. Reed, 122 W. Twenty-first St.
G.W. Schlindwein, 133 W.Ninth St.
J. J. Bell, Eighth and French Sts.
Com. on Pub.
Policy and
Legislation..D.H. Strickland, 153 W.Seventh St.
Guy C. Boughton, 810 Peach St.
Owen M. Shreve, 162 W. Eighth St.
Frank A. Walsh, 128 E. Seventh St.
David N. Dennis, 221 W. Ninth St.

Stated meetings in the Library Building, Erie, the first Tuesday of each month, at 8:30 P.M. Election of officers in January.

MEMBERS (97).

Ackerman, John, 134 West Seventh St.
Barkey, Peter, 130 West Ninth St.
Barney, Elfred R., Wattsburg.
Barrett, George Thomas, 420 East Eleventh St.
Beck, Frank William, Girard.
Bednarkiewicz, Ignatius A., 602 E. Twelfth St.
Belding, John Eastman, Erie.
Bell, John J., Eighth and French Sts.
Boughton, Guy C., 810 Peach St.
Brown, Dean S., 149 West Eighth St.
Burt, Judson M., 814 Sassafras St.
Cameron, Alexander C., 909 Poplar St.
Chaffee, Orel N., 820 Sassafras St.
Chidester, Charles B., 219 W. Eighteenth St.
Croop, J. Elmer, 628 East Sixth St.
Darrow, John Allison, 359 East Sixth St.
Dasher, J. Howard, 114 E. Sixth St.
Dennis, David N., 221 West Ninth St.
De Tuerck, John K., 338 East Ninth St.
Dickinson, George S., 143 West Ninth St.
Douville, Jeffrey C., Northeast.
Drozeski, Edward H., 117 East Sixth St.
Dudenhoeffer, Joseph, 216 W. Twenty-fourth St.
Dunn, Harrison A., 132 West Ninth St.
Dunn, Ira J., 406 Masonic Temple.
Eastman, Anstice Ford, 205 West Eighth St.
Elston, Gabriel A., Corry.
Gamon, Frank, 126 East Sixth St.
Gillespie, Martin S., Edinboro.
Gleeten, Scott D., 822 West Tenth St.
Glenn, Frank D., 941 E. Twenty-third St.
Hall, Friend L., 262 West Eighteenth St.
Hart, Fred C., Girard.
Heard, Corydon F., 402 Masonic Temple.
Heard, James L., Northeast.
Henry, Ralph E., 504 West Eighteenth St.
Hess, Elmer, Eleventh and Peach Sts.
Howe, Jesse Burkett, 724 West Eighth St.
Humphrey, William J., Union City.
Hunter, Wallace R., 802 Peach St.
Irwin, Jeremiah S., 628 West Eighteenth St.
Judge, Margaret Allen, 234 West Eighth St.
Kalb, George B., 405 Masonic Temple.
Kemble, Charles C., 230 West Eighth St.
Kendall, Eugene E., Waterford.
Kern, Rudolph A., 332 West Eighth St.
Krum, Astley G., 163 West Eighteenth St.
Law, Katharine Hays, 247 West Eighth St.
Lefever, Clarence H., 507 West Eleventh St.
Little, Watson W., Waterford.
Lloyd, John H., R.D. 2, Erie.
Lyons, Harry Eugene, Fairview.
McCallum, Chester H., 2018 East Ave.
McCallum, Malcolm J., 133 West Ninth St.
McCarthy, Frank P., 402 East Sixth St.
McElree, Frank Eugene, Girard.
Miller, Adelbert B., North Girard.
Miller, Richard O., 420 West Eighth St.
Montgomery, James H., 130 West Tenth St.
Moorhead, Hugh M., 13 East Eighth St.
O'Dea, Charles A., 151 East Fifth St.
O'Donnell, John J., 2518 Parade St.
Olds, H. H., 250 West Fourth St.
Page, Claude W., 420 West Eleventh St.
Peters, Joel M., Albion.
Purcell, Thomas, 716 Sassafras St.
Putnam, Burton H., Northeast.
Putts, B. Swayne, 734 West Eighth St.
Ray, George S., 155 West Eighth St.
Reed, George A., 122 W. Twenty-first St.
Reinoehl, David V., Eighth and French Sts.
Rockwell, LaRue D., Union City.
Ross, Fred E., 2012 Peach St.
Roth, Augustus H., Eighth and French Sts.
Roueche, William H., 226 West Eighth St.
Rutherford, J. Frank, Cranesville.
Schlindwein, George Wm., 133 West Ninth St.
Schmelter, John W., 549 West Seventh St.
Schrade, Anna M., 716 Sassafras St.
Shreve, Owen M., 162 West Eighth St.
Shultz, Abner W., Pa. Soldiers and Sailors Home.
Silliman, James E., 137 West Eighth St.
Smith, A. Louis, Corry.
Stoney, George F., 746 East Sixth St.
Strickland, Charles G., 153 West Seventh St.
Strickland, David H., 153 West Seventh St.
Studebaker, George M., 426 East Tenth St.
Thompson, Ross W., Wesleyville.
Tredway, Thomas Palmer, 810 Peach St.
Waggoner, Charles Carroll, Corry.
Walsh, Frank A., 128 East Seventh St.
Washabaugh, William B., 920 E.Twenty-first St.
Weibel, Elmer G., Ninth and Poplar Sts.
Wheeler, Arthur C., 128 West Eighth St.
Wishart, Hagar McLean, Northeast.
Woodruff, Row O., Waterford.
Wright, John W., 247 West Eighth St.

FAYETTE COUNTY SOCIETY.

(Organized May 18, 1869.)

President...Arthur S. Hagan, Uniontown.
V. Pres.....Charles W. Utts, Connellsville.
Sec. and
Treasurer...Elliott B. Edie, Connellsville.
Reporter....John P. LaBarre, Waltersburg.

Censors.....Levi S. Gaddis, Uniontown.
George W. Neff, Masontown.
Thomas B. Echard, Connellsville.
Com. on Pub.
Policy and
Legislation..Freeman S. Hoover, Brownsville.
Arthur E. Crow, Uniontown.
Thomas H. White, Connellsville.

Stated meetings first Tuesday in January, March, May, July, September and November at 7:30 P.M. The meetings of January, May and September will be held in Uniontown. The meetings of March, July and November to be held alternately in Connellsville and Brownsville.

MEMBERS (106).

Adams, Charles W., Uniontown.
Altman, Owen R., Uniontown.
Bailey, William J., Connellsville.
Baker, Hugh, Connellsville.
Baltz, Samuel A., Uledi.
Baum, Simon H., Uniontown.
Bell, Harry J., Dawson.
Brooks, Don D., Normalville.
Brown, Henry Stanley, Adah.
Churchill, William James, S. Connellsville.
Cloud, Milton H., Masontown.
Cochran, James L., Star Junction.
Colborn, Andrew J., Connellsville.
Coll, Hugh J., Connellsville.
Conn, Clyde W., Smithfield.
Cox, James D., New Salem.
Crosbie, George T., Belle Vernon.
Crow, Arthur E., Uniontown.
Davidson, Carlton H., New Salem.
Dixon, John C., Connellsville.
Dowds, Samuel C., Mt. Braddock.
Echard, Thomas B., Connellsville.
Eddy, Edward L., Greensboro (Greene Co.).
Edie, Elliott B., Connellsville.
Edmunds, George H., Connellsville.
Elliott, Calvin Hayes, Brownsville, R.D. 20.
Evans, George O., Uniontown.
Ewing, James B., Uniontown.
Francis, Thomas R., Connellsville.
Frankenburger, W. S., Brownsville.
Gaddis, Levi S., Uniontown.
Gallagher, George W., Connellsville.
Gans, Charles Core, Brier Hill.
Georgessi, Joseph, Connellsville.
Goodpaster, William H., New Salem.
Gordon, John W., Belle Vernon.
Gribble, Russell T., Fairchance.
Griffin, George H., Uniontown.
Guiher, Horace B., Smithfield.
Hackney, Jacob S., 36 West Church St., Uniontown.
Hagan, Arthur S., Uniontown.
Hall, Herbert E., Vanderbilt.
Hansell, George B., Fayette City.
Hazlett, Jesse H., Vanderbilt.
Hess, George H., Uniontown.
Hibbs, Samuel E., Fairchance.
Hoffman, Harry Clyde, Connellsville.
Hoover, Freeman S., Brownsville.
Hopwood, George B., Grindstone.
Hopwood, William Henry, Smock.
Ingraham, Eben R., Masontown.
Jackson, John D., Connellsville.
Johnson, Chester B., New Salem.
Junk, James L., Connellsville.
Kamerer, Russell P., Perryopolis.
Kerr, J. French, Connellsville.
Kidd, Alexander R., Connellsville.
Kimmel, William S., Republic.
LaBarre, John Pollard, Waltersburg.
LaClair, Charles H., Uniontown.
Larkin, Peter A., Uniontown.
Lilley, Wilbur M., Brownsville.
Lowman, Norman Bert, Belle Vernon.
Luman, Clark M., Uniontown.
McClenathan, John C., Connellsville.
McCombs, Edgar A., Broadford.
McCormick, Louis P., Connellsville.
McCullough, John F., Whitsett.
McHugh, William A., Uniontown.
McKee, Robert S., Connellsville.
Means, William H., Percy.
Messmore, Harry Benjamin, Brownsville.
Messmore, John Lindsey, Masontown.
Messmore, Walter T., Smithfield.
Neff, George W., Masontown.
Noon, Milton A., Everson.
O'Neil, Andrew, Uniontown.
Osborn, Wilkins William, Upper Middletown.
Parker, Henry R., Leisenring.
Parshall, James W., Uniontown.
Patterson, William P., Fairchance.
Pfleuger, Charles J., Fairchance.
Pisula, Vincent Paul, Everson.
Peters, Stephen E., Masontown.
Rasley, Edwin R., Uniontown.
Rebok, Harry Edward, Waltersburg.
Reichard, Cyrus C., Brownsville.
Reichard, Lewis N., Brownsville.
Ritenour, Joseph P., 100 West Fayette St., Uniontown.
Robinson, George H., Uniontown.
Sangston, D. Hibbs, McClellandtown.
Sangston, James H., McClellandtown.
Seaton, Lewis H., Grays Landing (Greene Co.).
Sherrick, Earl C., Connellsville.
Shupe, Mersellows B., Connellsville.
Smith, Alfred C., Brownsville.
Smith, Chas.H., 71 Morgantown St., Uniontown.
Smith, Peter Franklin, Uniontown.
Stollar, Bert Lee, Fayette City.
Sturgeon, John D., Uniontown.
Utts, Charles William, Connellsville.
VanVoorhis, John S., Belle Vernon.
Wagoner, LeRoy C., Brownsville.
Warne, William Wilbur, Dunbar.
White, Thomas H., Connellsville.
Wonders, Homer F., Uniontown.

FRANKLIN COUNTY SOCIETY.

(Organized January 24, 1825. Reorganized 1869).

President...William C. Schultz, Waynesboro.
V. Pres.....Benj. F. Myers, Chambersburg.
M.W.Stofer, Chambersburg, R.D.10.
Sec. and
Reporter....John J. Coffman, Scotland.
Asst. Sec...Paul P. Allen, Chambersburg.
Treasurer...J. McLanahan, Chambersburg.
Censors.....A. B. Sollenberger, Waynesboro.
Jas. B. Amberson, Waynesboro.
W. Frank Skinner, Chambersburg.

Com. on Pub.
Policy and
Legislation..J. McLanahan, Chambersburg.
David F. Unger, Mercersburg.
Leslie M. Kauffman, Kauffman.

Stated meetings in the Library Rooms, Chambersburg, third Tuesday of January, March, May, September and November. Election of officers in January.

MEMBERS (59).

Allen, Paul P., Chambersburg.
Amberson, James Burns, Waynesboro.
Ash, William S., Hagerstown, Md.
Asper, Guy P., Chambersburg.
Bonbrake, Henry X., Chambersburg.
Brosius, William H., Mont Alto.
Bushey, Franklin A., Greencastle.
Coffman, John J., Scotland.
Croft, John W., Waynesboro.
Dalbey, Alvin D., McConnellsburg (Fulton Co.).
Devilbiss, H. Clay, Chambersburg.
Devor, John H., Chambersburg.
Emmert, Frank N., Chambersburg.
Fritz, Horace M., Quincy.
Gelwix, John M., Chambersburg.
Gilland, John C., Greencastle.
Gordon, John K., Chambersburg.
Greenewalt, John C., Chambersburg.
Grove, Aaron B., Shady Grove.
Hartzell, Charles A., Fayetteville.
Hoover, Percy D., Waynesboro.
Kauffman, Leslie M., Kauffman.
Kempter, J. Elmond, Chambersburg.
Kennedy,Jas. S., Camp McGrath, Batangas, P.I.
Kinter, John H., St. Thomas.
Koons, John H., Waynesboro.
Laughlin, Rebecca P., Waynesboro.
McClain, Harry C., Hustontown (Fulton Co.).
McGarrah, Harry B., Fannettsburg.
McLanahan, Johnston, Chambersburg.
McLaughlin, Charles M., Greencastle.
Maclay, Joseph P., Chambersburg.
Marshall, John P., Mont Alto.
Menger, Edward F., Ft. Loudon.
Miley, Harry M., Chambersburg.
Mosser, John W., McConnellsburg (Fulton Co.).
Myers, Benjamin F., Chambersburg.
Nevin, Bruce E., Mercersburg.
Noble, William P., Greencastle, R.D. 5.
Palmer, Charles F., Chambersburg.
Palmer, Edgar W., Greencastle.
Ramsey, Robert W., Chambersburg.
Robinson, Geo.M.,McConnellsburg (Fulton Co.).
Schultz, William C., Waynesboro.
Shull, Samuel D., Chambersburg.
Skinner, W. Frank, Chambersburg.
Snively, A. Barr, Waynesboro.
Snively, Isaac N., Waynesboro.
Sollenberger, Aaron B., Waynesboro.
Stoey, Oliver P., Roxbury.
Stofer, M. Webster, R.D. 10, Chambersburg.
Swan, James H., St. Thomas.
Swartzwelder, James S., Mercersburg.
Thrush, Ambrose W., Chambersburg.
Unger, David F., Mercersburg.
Weagly, Theodore H., Marion.
White, Thomas D., Orrstown.
Wright, Fairfax G., Chambersburg.
Zimmerman, Guy L., Lemasters.

GREENE COUNTY SOCIETY.

(Organized June 26, 1883.)

President...Harry C. Scott, Waynesburg.
V. Pres.....Frank S. Ullom, Waynesburg.
Secretary...Rufus E. Brock, Waynesburg.
Cor. Sec....Robert W. Norris, Waynesburg.
Reporter....Ira D. Knotts, Davistown.
Treasurer...Thomas L. Blair, Waynesburg.
Censors.....Arthur T. Murray, Nineveh.
John T. Iams, Waynesburg.
Thomas B. Hill, Waynesburg.
Com. on Pub.
Policy and
Legislation..George McC. Scott, Waynesburg.
Lindsey S. McNeely, Kirby.
Stephen E. Wignet, Waynesburg.

Stated meetings at Waynesburg the fourth Tuesday of October, April, June and August. Also weekly meetings on Friday night for post-graduate study. Election of officers in October.

MEMBERS (30).

Blair, Thomas Lazear, Waynesburg.
Braddock, Elmer Garfield,Johns Hopkins Hosp., Baltimore, Md.
Brock, Rufus Edward, Waynesburg.
Coen, John A., Bristoria.
Cowen, Brontz Luther, Waynesburg.
Day, Clinton Homer, Clarksville.
Day, Jonathan Rayner, Nineveh.
Hatfield, George Washington, Mt. Morris.
Hill, Thomas Benton, Waynesburg.
Hogue, Smith Adamson, Rices Landing.
Iams, John T., Waynesburg.
Iams, Samuel H., Waynesburg.
Kerr, Charles John, Jefferson.
Knotts, Ira D., Davistown.
Knox, James Albert, Waynesburg.
Laidley, Edmund Wirt, Carmichaels.
McNeely, Lindsey S., Kirby.
Milliken, Lorenzo F., Harveys.
Millikin, Thomas N., Waynesburg.
Murray, Arthur Thomas, Nineveh.
Murray, John M., Windridge.
Norris, Robert Walton, Waynesburg.
Rice, Homer Corbly, New Freeport.
Scott, George McClellan, Waynesburg.
Scott, Harry Chinsworth, Waynesburg.
Spragg, Charles William, Waynesburg.
Titus, Scott J., Jefferson.
Ullom, Frank Sellers, Waynesburg.
Wignet, Stephen E., Waynesburg.
Williams, Samuel T., Nettle Hill.

HUNTINGDON COUNTY SOCIETY.

(Organized August 14, 1849. Reorganized April 9, 1872.)

President...Frank L. Schum, Huntingdon.
V. Pres.....John M. Steel, Huntingdon.
Secretary...John M. Beck, Alexandria.
Treasurer...George G. Harman, Huntingdon.
Reporter....J. M. Kelchline, Jr., Petersburg.
Censors.....Robert H. Moore, Huntingdon.
Rudolph Myers, Huntingdon.
William J. Campbell, Mt. Union.
Com. on Pub.
Policy and
Legislation..Henry Clay Chisolm, Huntingdon.
Samuel Gregory, Mt. Union.
Michael R. Evans, Huntingdon.

Stated meeting in Huntingdon the second Thursday of each month at 1:30 p.m. Election of officers in January.

MEMBERS (37).

Banks, Clark W., Derry (Westmoreland Co.).
Bartram, Nell Wright, State Hospital, Kings Park, N. Y.
Beck, John M., Alexandria.
Black, Fred, Robertsdale.
Brallier, James P., Alexandria.
Brumbaugh, Cloy G., Huntingdon.
Brumbaugh, Samuel Oscar, Huntingdon.
Bush, Charles B., Orbisonia.
Campbell, Charles, Petersburg.
Campbell,Robert B.,New Grenada (Fulton Co.).
Campbell, William J., Mt. Union.
Chisolm, Henry C., Huntingdon.
Decker, Raymond R., Orbisonia.
Evans, Micaiah R., Huntingdon.
Fetterhoof, Harry B., Huntingdon.
Frontz, Howard C., Huntingdon.
Gardner, Charles Herman, Spruce Creek.
Green, Edward Houghton, Mill Creek.
Gregory, Samuel, Mt. Union.
Harman, George G., Huntingdon.
Herkness, John S., Mount Union.
Johnston, James M., Huntingdon.
Keichline, John M., Jr., Petersburg.
Locke, Howard V., Orbisonia.
McCarthy, Alvin R., Mt. Union.
McClain, Charles A. Roe, Mt. Union.
Moore, Robert Hall, Huntingdon.
Myers, Rudolph, Huntingdon.
Schum, Frank L., Huntingdon.
Sears, William Hardin, Huntingdon.
Simpson, Fred P., Mapleton Depot.
Simpson, George W., Mill Creek.
Spangler, John Gilbert, Mapleton Depot.
Steel, John M., Huntingdon.
Wilson, Harry C., Warriorsmark.
Wilson, Harry Sheridan, Huntingdon.
Wolfe, Lewis E., James Creek.

INDIANA COUNTY SOCIETY.

(Organized July 21, 1858.)

President...William E. Dodson, Indiana.
V. Pres.....Harry B. Neal, Indiana.
Secretary...Charles E. Rink, Cor. Eighth and Water Sts., Indiana.
Treasurer...Medus M. Davis, Indiana.
Reporter....James G. Fisher, Indiana.
Censors.....John A. Elkin, Creekside, R.D.
William B. Ansley, Saltsburg.
William E. Dodson, Indiana.
Com. on Pub.
Policy and
Legislation..Ralph F. McHenry, Heilwood.
Albert T. Rutledge, Blairsville.
Charles P. Reed, Homer City.

Stated meetings at 1 p.m. in Indiana second Tuesday in January, July and October; in Blairsville second Tuesday in April, and during the other months of the year special meetings to be held in Indiana the second Tuesday of each month. All sessions of Indiana meetings to be held in the parlors of the New Indiana House and Blairsville meeting to be held in Einstein opera house. Election of officers in January.

MEMBERS (45).

Alexander, Ray McElvey, Robinson.
Ansley, William B., Saltsburg.
Boden, Todd R., McIntyre.
Bowers, Benj. F., St. Benedict (Cambria Co.).
Buterbaugh, Howard B., Indiana.
Carson, Jason W., Indiana.
Clagett, Luther S., Blairsville.
Coe, Benjamin F., Clymer.
Davis, Medus M., Indiana.
Dodson, William E., Indiana.
Earhart, Elias B., Saltsburg.
Ehrenfeld, N. Frank, Indiana.
Elkin, John A., Creekside, R.D.
Fisher, James G., Indiana.
Gates, Dunn William, Indiana.
Gourley, John C., Heilwood.
Harmon, Clair G., West Lebanon.
Hileman, E. E., Hillsdale.
Johns, William, Brush Valley.
Kamerer, Samuel Alden, Smicksburg.
Lewis, E. Budd, Arcadia.
Lewis, Ray N., Livermore (Westmoreland Co.).
McEwen, Charles M., Plumville.
McFarlane, Joseph P.,Nanty Glo (Cambria Co.).
McHenry, Ralph F., Heilwood.
Moore, Frank Fisher, Homer City.
Neal, Harry B., Indiana.
Nix, William H., Wehrum.
Norton, Roy Roscoe, Blairsville.
Onstott, Elmer, Saltsburg.
Peterman, James H., Cherrytree.
Reed, Charles Paul, Homer City.
Rink, Charles E., Cor. Eighth and Water Sts., Indiana.
Rutledge, Albert T., Blairsville.
Schall, Reuben Elmer, Arcadia.
Shields, William L., Kent.
Simpson, George E., Indiana.
Simpson, William A., Indiana.
Smith, Clark M., Plumville.
Spicher, Clarence C., Starford.
St. Clair, John M., Indiana.
Stephens, Thomas D., Penn Run.
Stewart, Alexander H., Marion Center.
Sutton, M. Alva, Avonmore (Westmore. Co.).
Weitzel, William F., Indiana.

JEFFERSON COUNTY SOCIETY.

(Organized September 11, 1877. Incorporated April 16, 1887.)

President...Charles C. Hammond, Wishaw.
V. Pres.....John C. Sayers, Reynoldsville.
Russell C. Gourley, Punxsutawney.
Sec. and
Treasurer...Norman C. Mills, Big Run.
Reporter....James C. Borland, Falls Creek.
Censors.....Abraham F. Balmer, Brookville.
Addison H. Bowser, Reynoldsville.
S. S. Hamilton, Punxsutawney.
Com. on Pub.
Policy and
Legislation..Abraham F. Balmer, Brookville.
John K. Brown, Brookville.
Ira D. Bowser, Reynoldsville.
F. C. Smathers, Punxsutawney.
Arthur F. McCormick, Falls Creek.

Stated meetings at Reynoldsville, the fourth Friday of each month. Election of officers in January.

MEMBERS (68).

Allison, Harry W., Worthville.
Balmer, Abraham F., Brookville.
Benson, Francis L., Punxsutawney.
Benson, Joseph P., Punxsutawney.
Beyer, S. Meigs, Punxsutawney.
Beyer, William F., Punxsutawney.
Blacklock, Robert O., Eleanor.
Blaisdell, Walter S., Punxsutawney.
Booher, Jay C., Falls Creek (Clearfield Co.).
Borland, James C., Falls Creek (Clearfield Co.)
Bowser, Addison H., Reynoldsville.
Bowser, Ira D., Reynoldsville.
Brown, John K., Brookville.
Cranmer, Carl B., Iselin (Indiana Co.).
Davenport, Samuel M., Dubois (Clearfield Co.).
Ferman, John W., Luthersburg (Clearfield Co.).
Foust, John W., Reynoldsville.
Free, Spencer M., Dubois (Clearfield Co.).
Gourley, Harry R., Punxsutawncy.
Gourley, Russell C., Punxsutawney.
Grube, John E., Punxsutawney.
Grube, J. Miles, Punxsutawney.
Hamilton, Sylvester S., Punxsutawney.
Hammond, Charles C., Wishaw.
Haven, James A., Brookville.
Hayes, Leo Z., Conifer.
Houck, Earl E., Dubois (Clearfield Co.).
Huff, Samuel R., Hazen.
Hughes, Edgar Lee, Helvetia (Clearfield Co.).
Humphreys, George H., Brockwayville.
Johnstone, Charles W., Dubois (Clearfield Co.).
Jordan, Ralph Ross, Dubois (Clearfield Co.).
King, Harry B., Reynoldsville.
Lewis, Homer H., Penfield (Clearfield Co.).
Lorenzo, Frank A., Punxsutawney.
McCormick, Arthur F., Falls Creek (Clearfield Co.).
McKinley, Arthur C., Corsica.
McNeil, Arthur R., Westville.
Maine, Charles L., Dubois (Clearfield Co.).
Matson, Walter W., Brooksville.
Mills, Norman C., Big Run.
Mock, David C., Cambridge Springs (Crawford Co.).
Mohney, Irvin R., Brookville
Murray, John H., Punxsutawney.
Musser, George M., Punxsutawney.
Neale, J. Buchanan, Reynoldsville.
Newcome, William C., Big Run.
Nolan, Thomas F., Reynoldsville.
Pringle, Francis D., Punxsutawney.
Raine, James F., Sykesville.
Sayers, John C., Reynoldsville.
Shumacher, Forest L., Dubois (Clearfield Co.).
Scott, Clinton H., Ramsaytown.
Shaffer, Phineas J., Sand Patch (Somerset Co.).
Simpson, Alverdi J., Summerville.
Smathers, Francis C., Punxsutawney.
Smith, Norman W., Walston.
Snyder, Wayne L., Brookville.
Steiner, John G., Knoxdale.
Stevenson, Charles R., Delancey.
Thomas, David W., Soldier.
Thompson, Harry P., Brookville.
Walters, Jacob A., Punxsutawney.
Whenn, John R.,Jefferson Line (Clearfield Co.).
Whitehill, Alexander C., Brookville.
Williams, Thornton R., Punxsutawney.
Yeager, Frank N., Hamilton.
Young, Roy L., Punxsutawney.

JUNIATA COUNTY SOCIETY.

(Organized August 7, 1907.)

President...William H. Banks, Mifflintown.
V. Pres.....Herman F. Willard, Mexico.
Wm. H. Haines, Thompsontown.
Secretary...Brady F. Long, Mifflin.
Treasurer...Isaac G. Headings, McAllisterville.
Censors.....Amos W. Shelley, Port Royal.
Isaac G. Headings, McAllisterville.
Com. on Pub. Policy and Legislation..William H. Banks, Mifflintown.
Brady F. Long, Mifflin.

Meetings held the first Wednesday of January, April, July, and October at 1 P.M., in the Tuscarora Club Rooms, Mifflintown.

MEMBERS (11).

Banks, William H., Mifflintown.
Crawford, Darwin M., Mifflintown.
Haines, William H., Thompsontown.
Heading, James G., Port Royal.
Headings, Isaac G., McAllisterville.
Levan, Jacob K., St. Marys (Elk Co.).
Long, Brady F., Mifflin.
Quig, Robert M., East Waterford.
Ritter, Benjamin H., McCoysville.
Shelley, Amos W., Port Royal.
Willard, Herman F., Mexico.

LACKAWANNA COUNTY SOCIETY.

(Organized November 20, 1878.)

(Scranton is the post office when street address only is given.)

President...John B. Corser, Scranton Private Hospital.
V. Pres.....James F. Jacob, Throop.
Stephen S. Watson, Moosic.
Sec.-Treas..F.Whitney Davis, 639 N. Main Ave.
Asst. Sec.
Reporter....H. W. Albertson, 2410 N.Main Ave.
Librarian...Jonathan M. Wainwright, 436 Wyoming Ave.
Censors.....J.L.Rea, 1742 Sanderson Ave.,1915.
W.A.Paine, 1202 Washburn St.,1914.
Herbert D. Gardner, Scranton Private Hospital, 1913.
Com. on Pub. Policy and Legislation..L.G. Redding, Chairman, Dunmore.
John J. Walsh, 1117 Pittston Ave.
William H. Conway, Olyphant.
N. E. Newbury, 1515 Capouse Ave.
Murvington E.Malaun, Carbondale.
Trustees....G. D. Murray, 436 Wyoming Ave.
M. J. Williams, 302 S. Main Ave.
D. A. Capwell, 431 Wyoming Ave.
Welland A. Peck, 2604 N.Main Ave.
Lowell M. Gates, 802 Mulberry St.

Regular weekly meetings are held Tuesday evenings at 8:45 in the society's rooms, Real Estate Building, 136 North Washington Ave., Scranton. Election of officers in January.

MEMBERS (186).

Albertson, Harry W., 2410 North Main Ave.
Alexander, Thomas L., 325 Spruce St.
Anderson, U. Grant, Carbondale.
Arndt, Franklin F., 437 Wyoming Ave.
Bailey, Mark L., Carbondale.
Baldwin, Harmon O., Dalton.
Bateson, John C., 1734 Jefferson Ave.
Beach, George B., 232 South Main Ave.
Beddoe, Benjamin G., 324 South Main Ave.
Bennett, Wm. F., 306 North Washington St.
Bernstein, Arthur H., 1000 Webster Ave.
Bessey, Herman, 1742 Church St.
Bishop, Frederick J., 801 Prescott Ave.
Brady, William F., 416 Lackawanna Ave.
Brennan, John J., 230 South Main Ave.
Brown, Carl Guille, 320 Mulberry St.
Brown, George C., Dunmore.
Bryant, Frank G., 237 North Main Ave.
Budd, Frank T., Peckville.
Burns, Reed, 746 Jefferson Ave.
Butzner, John Decker, Scranton Private Hosp.
Cantor, A. S., Priceburg.
Capwell, Daniel A., 431 Wyoming Ave.
Carlucci, Peter F., 435 North Sixth Ave.
Carroll, John J., 1309 Jackson St.
Cavill, Francis T., Jessup.
Chapin, David R., 1410 Mulberry St.
Connell, Alexander J., Connell Building.
Conway, William H., Olyphant.
Corser, John B., Scranton Private Hospital.
Cross, Friend A., 215 Pittston Ave.
Davenport, Fred M., 827 Green Ridge St.
Davies, Philip J., 608 South Main St.
Davies, William Rowland, 221 S. Main Ave.
Davis, E. T., Old Forge.
Davis, F. Whitney, 639 North Main Ave.
Davis, William J. L., 219 North Main Ave.
Dean, G. Edgar, 1548 Madison Ave.
Deantonio, Emilio, Box 68, 346 Franklin Ave.
DeLong, Percy, 234 Adams Ave.
DeMont, Charlotte, 357 Chestnut St., Dunmore.
Dolan, William K., 633 N. Washington Ave.
Donahoe, John P., 128 Adams Ave.
Downton, Ernest W., 746 Jefferson Ave.
Edwards, Edward E., Taylor.
Evans, Daniel W., 157 South Main Ave.
Falkowsky, Charles, Jr., 327 Spruce St.
Fitzsimmons,Thomas C.,Waymart (Wayne Co.).
Fox, Samuel Watson, 909 Prescott Ave.
Freedman, Albert S., 306 Wyoming Ave.
Frey, Clarence Leslie, Dime Bank Building.
Frey, Lewis, 306 North Washington Ave.
Fulton, William G., 433 Wyoming Ave.
Gardner, Herbert D., Scranton Private Hospital.
Garvey, James B., Dunmore.
Gates, Lowell M., 802 Mulberry St.
Gibbons, Myles A., Dunmore.
Gibbs, L. Harrington, 217 South Main Ave.
Gillis, Alexander F., Carbondale.
Goodman, Isaac, 332 North Washington Ave.
Grant, John W., Carbondale.
Graves, Isaac S., Jermyn.
Griffiths, John L., Taylor.
Grover, John Butler, Peckville.
Hager, Albert E., Taylor.
Halpert, Henry, 317 Linden St.
Harper, James G., Carbondale.
Heston, Patrick J., 2602 Birney Ave.
Hollister, Frederick P., 2089 North Main Ave.
Houser, John W., Taylor.
Huber, George U., Traders Bank Bldg.
Jackson, Byron H., 436 Wyoming Ave.
Jacob, James F., Throop.
Jenkins, David J., 234 South Main Ave.
Jenkins, William W., Olyphant.
Johnson, William S., Carbondale.
Jones, Harry E., Dickson City.
Kay, Thomas W., Scranton Private Hospital.
Kearney, Patrick H., 312 Wyoming Ave.
Keller, William Edwin, 435 Wyoming Ave.
Kelley, John A., Carbondale.
Kelly, John Francis, Connell Building.
Kelly, John Joseph, Archbald.
Kennedy, Lucius Carter, 1202 Marion St.
Kerling, George A., Gouldsboro (Wayne Co.).
Kiesel, Ernest L., 515 Lackawanna Ave.
Killeen, Thomas G., 903 Capouse Ave.
Knedler, J. Warren, Moscow.
Kohn, Louis W., 429 Wyoming Ave.
Kulczyski, John, 415 Pittston Ave.
Lewis, James Davis, 204 West Market St.
Lindsay, George G., 1736 Monsey Ave.
Lloyd, Rossiter, J., Olyphant.
Loftus, Walter Emmett, Liberty Bldg., Carbondale.
Longstreet, Samuel P., 511 N. Washington Ave.
Lowry, Welles J., Carbondale.
Lynch, William M., Clarks Summit.
McGinty, Edward F., 415 Mulberry St.
McGinty, James A., Olyphant.
McKeage, Robert B., Traders Bank Bldg.
MacDougall, William L., 216 Connell Bldg.
Mackey, Nathan C., Waverly.
Mackey, Robert Bliss, Waverly.
Malaun, Murvington E., Carbondale.
Manley, James A., 1414 Pittston Ave.
Manley, Peter C., 1320 Pittston Ave.
Mears, Daniel W., Connell Building.
Monie, Thomas, Archbald.
Morris, E. Frederick, Glens Falls, N. Y.
Moylan, Patrick Francis, 216 South Main Ave.
Murray, Gilbert D., 436 Wyoming Ave.
Murrin, Connell Edward, 732 Pittston Ave.
Myer, William W., Old Forge.
Newbury, Nelson E., 1515 Capouse Ave.
Niles, John S., Carbondale..
Noecker, Charles B., 216 Connell Building.
Noone, Michael J., 104 West Market St.
O'Brien, J. Emmett, 741 Quincy Ave.
O'Connor, James J., Dickson City.
O'Dea, Patrick J., 171 South Main Ave.
O'Malley, John, 613 Spruce St.
O'Malley, M. T., Hickory St.
Paine, William A., 1202 Washburn St.
Peck, Welland A., 2604 North Main Ave.
Peet, Ernest L., 1823 North Main Ave.
Penticost, Milton I., Peckville.
Porteus, James S., 1009 South Main Ave.
Price, F. Fraley, Carbondale.
Price, John C., 436 Wyoming Ave.
Price, John J., Olyphant.
Quinn, Matthew H., 330 Pittston Ave.
Raymond, Louis H., 311 North Main Ave.
Rea, James L., 1742 Sanderson Ave.
Rea, James L., Jr., 1742 Sanderson Ave.
Redding, Leonard G., Dunmore.
Reedy, Walter M., Connell Building.
Reifsnyder, Joseph C., Connell Building.
Reynolds, George B., 146 South Main Ave.

Ritz, Reinhart J., 734 North Main Ave.
Roberts, John J., 225 South Main Ave.
Robison, John I., 1521 Jackson St.
Rodham, Thomas B., 1824 North Main Ave.
Roos, Elias G., 232 Adams Ave.
Ruddy, James P. H., 206 Dime Bank Bldg.
Rutherford, Thomas A., Clarks Summit.
Rynkiewicz, Stanley N., 484 Main St., Kingston (Luzerne Co.).
Saltry, James F., 847 Capouse Ave.
Sedlack, Frank J., 818 North Irving Ave.
Severson, Irwin W., 217 North Main Ave.
Shepherd, Richard C., 633 East Market St.
Shinaberry, Rollen L., 918 Pittston Ave.
Silverstine, Nathan, 406 Wyoming Ave.
Smith, Addison W., 322 Madison Ave.
Smith, Harry F., 1522 Myrtle Ave.
Snyder, Marion D., Dunmore.
Stegner, Adam, Rendham.
Sturge, Edgar, 1202 Providence Road.
Sullivan, John J., 2006 Wayne Ave.
Sullivan, John J., Jr., 402 Wyoming Ave.
Szlupas, John, 1419 North Main Ave.
Thompson, James J., Carbondale.
Thomson, Charles E., Scranton Private Hosp.
Timlin, John J., Old Forge.
Toll, Robert M., 321 Mulberry St.
VanDoren, William, Archbald.
Van Sickle, Frederick L., Olyphant.
Villone, Joseph, 206 Chestnut St.
Vincent, Isaac R., 420 Spruce St.
Wagner, Joseph A., 306 N. Washington Ave.
Wainwright, Jonathan M., 436 Wyoming Ave.
Wall, Russell T., 436 Wyoming Ave.
Walsh, Anthony T., 306 Pittston Ave.
Walsh, James J., 407 Wyoming Ave.
Walsh, John J., 1117 Pittston Ave.
Watson, Stephen S., Moosic.
Webb, Daniel A., 310 Wyoming Ave.
Wheelock, Frank R., 884 North Main Ave.
White, Daniel W., 101 N. Detroit St., Tulsa, Okla.
White, J. Norman, 349 South Main Ave.
Williams, Morgan J., 302 South Main Ave.
Wilson, John D., State Hospital.
Winebrake, Albert J., 608 North Main Ave.
Winters, Frank W., Dunmore.
Woodcock, Lee R., 409 Peoples Bank Bldg.
Wormser, Bernard B., 234 Adams Ave.
Zeller, Charles A., Dalton.

LANCASTER CITY AND COUNTY SOCIETY.

(Organized January 26, 1844. Incorporated April 15, 1844.)

(Lancaster is the post office when street address only is given.)

President..S. W. Miller, 217 E. King St.
V. Pres.....Jerome S. Kendig, Salunga.
Frank Alleman, 146 N. Prince St.
Secretary...Horace C. Kinzer, 134 N. Duke St.
Treasurer...Theodore B. Appel 305 N. Duke St.
Reporter....W.D. Blankenship, 33 E. Walnut St.
Librarian...Frank G. Hartman, 136 N. Duke St.
Censors. ...John J. Newpher, Mount Joy.
J. Henry Musser, Lampeter.
George W. Berntheizel, Columbia.
Trustees....J. Henry Musser, Lampeter.
John J. Newpher, Mount Joy.
A. G. Bowman, 318 N. Duke St.
Com. on Pub. Policy and Legislation..Frank G. Hartman, 136 N. Duke St.
Theodore B. Appel, 305 N. Duke St.
Horace C. Kinzer, 134 N. Duke St.
Com. on Legal Affairs......George L. Cassel, 153 E. King St.
John L. Atlee, 129 E. Orange St.
Donald McCaskey, Witmer.
Com. on Increase of Membership.G. W. Berntheizel, Columbia.
Lewis M. Bryson, Paradise.
Adam V. Walter, Brownstown.
T. Reed Ferguson, Kirkwood
Horace C. Kinzer, 134 N. Duke St.

Stated meetings in Malta Temple, 40 West King St., Lancaster, the first Wednesday of each month, at 2 P.M. Election of officers in January.

MEMBERS (144).

Achey, Frederick A., 133 East Walnut St.
Alexander, Guy Levis, Camden, N.J., P.R.R.
Alleman, Frank, 146 N. Prince St.
Appel Theodore B., 305 N. Duke St.
Armstrong, James, McCall Ferry.
Atlee, John L., 129 East Orange St.
Baer, Walter K., 145 North Duke St.
Barsumian, Hagop G., 221 East King St.
Becker, Phares N., Mastersonville.
Berntheizel, George W., Columbia.
Biemesderfer, Frank I., 331 South Queen St.
Binkley, William G., Washingtonboro.
Bitzer, Newton E., 236 West Chestnut St.
Blankenship, Walter D., 33 East Walnut St.
Blough, Henry K., Elizabethtown.
Bolenius, Robert M., 48 South Queen St.
Bowers, Herbert R., 154 North Prince St.
Bowman, Abraham G., 318 North Duke St.
Bowman, Mary R., Kings Island, Long Island, N. Y.
Breneman, Park P., 146 East Walnut St.
Bricker, Elizabeth Bausman, Lititz.
Bryson, Howard R., 246 West Orange St.
Bryson, Lewis M., Paradise.
Cary, Dale Emerson, Lancaster.
Cassel, George Lincoln, 234 East King St.
Davis, Henry B., 241 East King St.
Davis, Miles L., 114 North Prince St.
Day, George E., Strasburg.
Denlinger, Maurice M., Rohrerstown.
Detwiler, Thomas C., 346 West Chestnut St.
Dissler, Harry S., Denver.
Dunlap, J. Francis, Manheim.
Farmer, Clarence R., 573 West Lemon St.
Ferguson, Thomas Reed, Kirkwood.
Fox, William Garfield, 48 East Orange St.
Frew, George, Paradise.
Garretson, William, East Petersburg.
Garvey, Thomas Q., 443 W. Chestnut St.
Gerhard, Milton U., 43 South Prince St.
Gillespie, George W., Pleasant Grove.
Good, Benjamin F., Letort.
Gray, Samuel G., Landisville.
Harter, G. Alvin, Maytown.
Hartman, Frank G., 136 North Duke St.
Heller, Samuel H., 43 West Orange St.
Helm, Amos H., New Providence.
Helm, Charles E., Bart.

Henry, J. Albert, 428 Charlotte St.
Herr, Ambrose J., 441 College Ave.
Herr, Benjamin F., Millersville.
Herr, John T., Landisville.
Herr, William H., 226 North Duke St.
Hershey, George Blair, Gap.
Hershey, Jacob D,, Manheim.
Hertz, John L., Lititz.
Hess, Ammon Gross, Mountville.
Hess, William G., Greene.
Hope, John Ferguson, 29 North Fifteenth St., Philadelphia (Philadelphia Co.).
Hostetter, Jacob E., Pequea.
Houston, Joseph W., 238 East King St.
Huber, Harry J., Ephrata.
Hurst, Michael W., Talmage.
Ilyus, Edmund B., 130 East Walnut St.
Ingram, Theodore E., Marietta.
Irwin, Thaddeus S., Christiana.
Jenkins, Joseph C., Lititz.
Kalbach, Adam M., 250 North Duke St.
Kauffman, Walter L., Thornhurst (Lacka. Co.).
Kendig, Benjamin E., Salunga.
Kendig, Jerome S., Salunga.
Kennedy, Joseph P., Columbia.
Keylor, Walter N., Leacock.
Kinard, George C., Lincoln.
Kinard, George W., Leacock.
Kinard, John W., 129 North Duke St.
King, George P., 32 South Duke St.
Kinzer, Horace Clemens, 134 North Duke St.
Koser, Samuel B.
Leaman, Adam E., West Willow.
Leaman, Walter J., Leaman Place.
Lehman, Jacob R., Mountville.
Lenhardt, Elmer E., Millersville.
Leslie, LeRoy K., Bareville.
Lichty, Samuel M., Gap.
Lightner, Isaac Newton, Ephrata.
Lincoln, James B., 603 West Chestnut St.
Long, Howard A., Brickerville.
McCaa, David J., Ephrata.
McCaa, D. Galen, 218 North Duke St.
McCaskey, Donald, Witmer.
McCormick, Daniel R., 22 South Prince St.
Markel, Chester F., Columbia.
Martin, Dwight C., Lititz.
Martin, John R. B., Gap.
Martin, John R. S., Christiana.
Miller, Samuel W., 217 East King St.
Mowery, Harry A., Marietta.
Mowery, Jacob L., 302 West Orange St.
Musser, J. Henry, Lampeter.
Myers, Harry F., 229 East King St.
Mylin, Walter F., Intercourse.
Netcher, Charles E., 46 North Prince St.
Newpher, John J., Mount Joy.
Noble, Edward I., 307 East King St.
Pickel, I. Harry, Millersville.
Pomerantz, Harry, Hamilton Apartments.
Posey, Silas Robert, Lititz.
Raub, Michael W., 339 North West End Ave.
Raub, Richard V. L., Quarryville.
Reed, Joseph A. E., 644 W. Chestnut St.
Reemsnyder, Byron J., Ephrata, R.D. 3.
Reeser, Richard, Columbia.
Ressler, Jacob L., Bird-in-hand.
Ringwalt, Martin, Rohrerstown.
Roebuck, J. Paul, 233 North Duke St.
Rohrer, George R., 45 East Orange St.
Rohrer, Thaddeus M., Quarryville.
Roop, Claude D., New Providence.
Roop, Harry B., Columbia.
Schaeffer, Peter F., Christiana.
Schowalter, Henry C. W., New Holland.
Shartle, J. Miller, 26 South Prince St.
Snavely, Harry B., 41 West Orange St.
Snyder, Asher F., Mt. Joy.
Stahr, Charles P., 17 East Walnut St.
Stein, Edgar J., 234 North Duke St.
Steward, William J., Lancaster County Hosp.
Sultzbach, Henry Miller, 231 East King St.
Tinney, William Scott, Strasburg.
Treichler, A. C., Elizabethtown.
Treichler, Vere, Elizabethtown.
Trexler, Jacob F,. 134 North Prince St.
Walter, Adam V., Brownstown.
Walter, Henry, Rothsville.
Wenger, John M., Terre Hill.
Wentz, Paul R., New Holland.
Winters, John L., Blue Ball.
Witmer, C. H., 13 East Walnut St.
Witmer. Elias H., Neffsville.
Witmer. Frank B., Bismark (Lebanon Co.).
Worth, William T., Bainbridge.
Yoder, Mahlon Harold, Lititz.
Yost, John W., Bethesda.
Ziegler, James P., Mount Joy.

LAWRENCE COUNTY SOCIETY.

(Reorganized October 7, 1897.)

President...William L. Steen, New Castle.
V. Pres.....Herman D. Boyles, New Castle.
Charles A. Reed, New Castle.
Sec. and Reporter....William A. Womer, New Castle.
Treasurer...Samuel W. Perry, New Castle.
Censors.....John Foster, New Castle.
Walter L. Campbell, New Castle.
Robert G. Miles, New Castle.
Com. on Pub. Policy and Legislation..Loyal W. Wilson, New Castle.
Don C. Lindley, New Castle.
Cert. Milk Commission.Thaddeus C. Brown, New Castle.
Brant E. Sankey, New Castle.
Edwin C. McComb, New Castle.

Society meets in Society Room in Greer Block, New Castle, on the first Thursday of every month at 8:30 p.m. Election of officers in September.

MEMBERS (64).

Autenreith, William Clifford, Bessemer.
Berger, Benjamin Morris, New Castle.
Blackwood, James M., New Castle.
Boak, Robert G., New Castle.
Boyles, Herman Davidson, New Castle.
Brice, Patrick Joseph, New Castle.
Brown, Thaddeus C., New Castle.
Burchfield, William Clinton, New Castle.
Campbell, Walter L., New Castle.
Campbell, William Braden, Hillsville.
Cleland, William, Harlansburg.
Cook, Albert M., Pasadena, Cal.
Cooper, Jesse R., New Castle.
Davidson, William J., New Castle.
Davis, Charles W., New Castle.
Dean, Hollis G., New Castle.
Douthett, James C. B., Pulaski.

Evans, Daniel E., New Castle.
Evans, W. G., Ellwood City.
Flannery, Charles F., New Castle.
Foster, John, New Castle.
Gageby, Lenore H., New Castle.
Guy, Franklin W., New Castle.
Heindel, Orville J., New Castle.
Harper, H. Cyrus, New Castle.
Harris, David R., New Castle.
Helling, Henry Ellwood, Ellwood City.
Hunt, Charles B., New Castle.
Iseman, Charles M., Ellwood City.
Kissinger, Walter C., New Castle.
Lindley, Don C., New Castle.
McComb, Edwin C., New Castle.
McCune, Samuel R., New Castle.
McDowell, C. Fenwick, New Castle.
McLaughry, Elizabeth M., New Castle.
Miles, Robert G., New Castle.
Mitchell, Henry C., Edinburg.
Moore, Jesse D., New Castle.
Perry, Samuel W., New Castle.
Popp, James M., New Castle.
Porter, Cassius M., Hillsville.
Reed, Charles A., New Castle.
Robertson, James F., New Castle.
Ross, Martin L., New Castle.
Sankey, Brant E., New Castle.
Shaffer, Thomas M., New Castle.
Smyser, Charles J., New Wilmington.
Smyth, Arthur Peter, 418½ W. Washington St., New Castle.
Snyder, Ernest Ulysses, Portersville (Butler Co.).
Steen, William L., New Castle.
Trainor, Charles Edwin, New Castle.
Tucker, John D., New Castle.
Urey, Frank F., 208 Liberty St., New Castle.
Urmson, Allan W., New Castle.
VanWert, Floyd Lee, New Castle.
Wagner, Frederick M., Wampum.
Wagner, Victor C., West Pittsburgh.
Wallace, Robert A., New Castle.
Warnock, George C., Youngstown, Ohio.
Williams, Thomas V., New Castle.
Wilson, Harry R., New Castle.
Wilson, Loyal W., New Castle.
Womer, William A., New Castle.
Zerner, H. Elmore, New Castle.

LEBANON COUNTY SOCIETY.

(Organized March, 1847.)

President...J. DeWitt Kerr, Lebanon.
V. Pres.....Thomas R. Holland, Lebanon.
Walter H. Brubaker, Lebanon.
Secretary...Charles M. Strickler, Lebanon.
Treasurer...Harvey E. Maulfair, Lebanon.
Reporter....George R. Pretz, 375 N. Eighth St., Lebanon.
Censors.....William M. Guilford, Lebanon.
Warren F. Klein, Lebanon.
Harvey E. Maulfair, Lebanon.
Com. on Pub.
Policy and
Legislation..Samuel P. Heilman, Lebanon.
Albert S. Reiter, Myerstown.
Joseph R. Beckley, Lebanon.
Thomas A. Kurr, Fredericksburg.
John J. Light, Lebanon.

Stated meetings the second Tuesday of each month at 2:30 P.M., Grand Jury Room, Court House, Lebanon. Election of officers in January.

MEMBERS (27).

Bashore, Simeon D., Palmyra.
Beattie, John, Fourth and Cumberland Sts., Lebanon.
Beckley, Joseph R., Lebanon.
Bordner, David Stanton, Palmyra.
Brubaker, Walter H., Lebanon.
Gingrich, Edward H., 511 Cumberland St., Lebanon.
Guilford, William M., Lebanon.
Heilman, Samuel P., Lebanon.
Holland, Thomas R., Lebanon.
Kerr, J. DeWitt, Lebanon.
Klein, Warren F., Lebanon.
Kurr, Thomas A., Fredericksburg.
Light, John J., Lebanon.
Light, Seth, 604 Cumberland St., Lebanon.
Maulfair, Harvey E., Lebanon.
Miller, J. Harvey, 19 N. Fourth St., Harrisburg (Dauphin Co.).
Pretz, George R., 375 N. Eighth St., Lebanon.
Rank, David M., Annville.
Reiter, Albert S., Myerstown.
Roedel, Henry H., Lebanon.
Roedel, William R., Lebanon.
Sherger, John A., 1809 N. Sixth St., Harrisburg (Dauphin Co.).
Shope, Samuel Z., 1642 N. Third St., Harrisburg (Dauphin Co.).
Strickler, Charles M., Lebanon.
Walter, John, Lebanon.
Weiss, Alfred S., 630 Chestnut St., Lebanon.
Zimmerman, Frank D., Schaefferstown.

LEHIGH COUNTY SOCIETY.

(Organized 1850.)

(Allentown is the post office when street address only is given.)

President...Robert C. King, Hellertown.
V. Pres.....H. T. M. Ritter, 101 N. Eleventh St.
R. E. Albright, 135 S. Fifth St.
Secretary...J. Treichler Butz, 304 N. Ninth St.
Treasurer...F. A. Fetherolf, 941 Hamilton St.
Reporter....W. A. Hausman, Jr., 1116 Hamilton St.
Librarian...John D. Matz, 40 N. Eighth St.
Censors.....William B. Erdman, Macungie.
Calvin J. Otto, 130 N. Seventh St.
Harry J. S. Keim, Catasauqua.
Com. on Pub.
Policy and
Legislation..Charles O. Henry, 102 N. Tenth St.
William A. Riegel, Catasauqua.
Willard D. Kline, 21 N. Eighth St.

Stated meetings at the Allentown Free Library Building, Allentown, on the second Tuesday of each month at 2:30 P.M. Election of officers in January.

MEMBERS (75).

Albright, Roderick E., 135 South Fifth St.
Arner, Quintin D., 18 South Thirteenth St.
Bachman, Wilbur A., South Allentown.
Backenstoe, Martin J., Emaus.
Backenstoe, William A., Emaus.

Bausch, Frederick R., 109 North Second St.
Bean, Harvey F., Mountainville.
Bingaman, Edwin M., Bernharts (Berks Co.).
Boyer, Frank S., 16 North Second St.
Boyer, George H., 528 North Sixth St.
Butz, J, Treichler, 304 North Ninth St.
Deibert, George S., 729 North Ninth St.
Dickenshied, Eugene H., 1030 Walnut St.
Erb, Horace B., 225 North Twelfth St.
Erdman, William B., Macungie.
Eshbach, William W., 520 Union St.
Feldhoff, Edward W., 1224 Turner St.
Fetherolf, Frederick A., 941 Hamilton St.
Fogel, Solon C. B., 36 North Twelfth St.
Gangewere, Victor, Rittersville.
Guth, Nathaniel C. E., 527 Liberty St.
Haas, Milton J., 1353 Chew St.
Haff, Charles Siegfried (Northampton Co.).
Hartzell, William H., 22 North Eighth St.
Hausman, William A., Jr., 1116 Hamilton St.
Hendricks, Augustus W., 453 North Sixth St.
Henry, Charles O., 102 North Tenth St.
Herbst, William Frederick, 28 North Fifth St.
Hertz, William J., 125 North Eighth St.
Holben, Franklin J., Schnecksville.
Hornbeck, James L., Catasauqua.
Huebner, Irwin F., 802 Walnut St.
Jordan, Henry D., 544 North Sixth St.
Keim, Charles J., Catasauqua.
Keim, Harry J. S., Catasauqua.
Kern, Alvin J., Slatington.
King, Robert C., Hellertown (Northamp. Co.).
Kistler, Jesse G., 1615 Chew St.
Kistler, Nelson F., 206 North Ninth St.
Kline, Willard D., 24 North Eighth St.
Kress, Palmer J., 24 South Seventh St.
LaBarre, Charles Louis, 104 N. Eighth St.
Lowright, James Harvey, Center Valley.
McAvoy, Jeremiah F., Catasauqua.
Matz, John D., 40 North Eighth St.
Mickley, Howard P., Neffs.
Miller, Aaron S., Saegersville.
Miller, Albert N., East Texas.
Miller, Mahlon G., Siegfried (Northamp. Co.).
Minner, J. Edwin S., Egypt.
Mohr, Eugene H., Alburtis.
Muschlitz, Charles H., Slatington.
Nagle, Thomas S., 708 Hamilton St.
Otto, Calvin J., 130 North Seventh St.
Parmet, David H., 309 North Second St.
Peters, R. Cornelius, 406 North Eighth St.
Rieche, Otto C., Macungie.
Riegel, Henry H., Catasauqua.
Riegel, William A., Catasauqua.
Ritter, Hope T. M., 101 North Eleventh St.
Saeger, Luther J., 811 Linden St.
Schaeffer, Charles D., 28 North Eighth St.
Schaeffer, Forrest G., 143 North Eighth St.
Schaeffer, Robert L., 28 North Eighth St.
Scheirer, Franklin B., 402 North Sixth St.
Schlesman, Charles H., 216 North Seventh St.
Seiberling, Fred C., 956 Hamilton St.
Seiberling, George F., 956 Hamilton St.
Smith, James S., 330 North Ninth St.
Sowden, Edgar L., Slatedale.
Trexler, William B., Fullerton.
Troxell, William C., 502 North Second St.
Weaber, Thomas H., 211 North Eighth St.
Weaver, Joseph M., 947 Walnut St.
Weida, Isadore J., Emaus.

LUZERNE COUNTY SOCIETY.

(Organized March 4, 1861.)

(Wilkes-Barre is the post office when street address only is given.)

President...E. U. Buckman, 70 S. Franklin St.
V. Pres.....W. Davis, 24 S. Washington St.
Edward S. Dougherty, Ashley.
Sec. and
Treasurer...D. Barney, 55 N. Washington St.
Reporter....Herbert B. Gibby, 96 S.Franklin St.
Censors.....Edgar B. Doolittle, Hazleton.
Alexander G. Fell, 317 S. River St.
Sanford L. Underwood, Pittston.
Com. on Pub.
Policy and
Legislation..J. Irving Roe, 34 N.Washington St.
Geo.W. Guthrie, 109 S.Franklin St.
R. P. Taylor, 25 S. Washington St.
Editor of
Transactions.......Lewis H. Taylor, 83 S. Franklin St.

Stated meetings, Room 4, Anthracite Building, Wilkes-Barre, second and fourth Wednesdays of each month at 8:30 P.M. Election of officers first meeting in January.

MEMBERS (165).

Ahlborn, Maurice B., 99 North Franklin St.
Andreas, George R., 204 East South St.
Ashley, Charles L., Plymouth.
Barney, Delbert, 55 North Washington St.
Barton, A. Arthur, Plains.
Barton, Milton Arthur, Plains.
Becker, Conrad J., 679 Hazle St.
Beckwith, Robert Payne, Plymouth.
Bennett, Clarence E., Nanticoke.
Berge, William H., Avoca.
Brooks, Allan C., 84 North Franklin St.
Brooks, James, Plains.
Brosius, Peter F., Hazleton.
Brown, Harry A., Lehman.
Brundage, Frank M., Conyngham.
Buckley, Ralph Emerson, 143 North Church St., Hazleton.
Buckman, Ernest U., 70 South Franklin St.
Caffrey, Anthony Joseph, 172 Dana St., Wilkes-Barre.
Carr, George W., 30 South Franklin St.
Clark, George A., 326 South Main St.
Collins, Daniel W., 27 East South St.
Cooper, Barnett H., Glen Lyon.
Corrigan, William H., 183 S. Washington St.
Creasy, Raymond C., 31 S. Washington St.
Danzer, William F., Hazleton.
Davis, Walter, 24 South Washington St.
Davis, William J., 227 Barney St.
Davison, William F., Dorranceton.
Deibel, Henry W., 119 Academy St.
Dickinson, Charles S., Freeland.
Dinkelspiel, Max R., 31 S. Washington St.
Dodson, Boyd, 186 Dana St.
Doolittle, Edgar B., Hazleton.
Dougherty, Anthony F., 41 N. Main St., Ashley.
Dougherty, Edward S., 9 Ashley St., Ashley.
Drake, George R., Plymouth.
Dreibelbies, Wilmer Clayton, Mountain Top.
Dyson, John R., Hazleton.
Edwards, Lewis, 790 Market St., Kingston.
Edwards, Vivian P., Main St., Edwardsville.

Ernst, Charles H., 55 Hanover St.
Everett, Shem A., Freeland.
Farrar, John K., Audenried (Carbon Co.).
Faulds, William H., Kingston.
Fell, Alexander G., 317 South River St.
Fischer, Herman A., 311 S. Washington St.
Fleming, John Carl, Dallas.
Fleming, Thomas F., Pittston.
Foss, Walter B., 36 North Main St., Ashley.
Foster, Alfred E., 290 Barney St.
Foster, Wilbur A., 533 South Main St.
Freeman, Stanley, Mohican Bldg., Main St.
Gaughan, Martin C., Pittston.
Gayley, William C., Hazleton.
Geist, James W., 529 South Franklin St.
Gibby, Harold J., Pittston.
Gibby, Herbert B., 96 South Franklin St.
Gilligan, James P., 359 Scott St.
Gorman, Peter J., 18 N. Main St., Pittston.
Groblewski, Casimir C., 20 Elm St., Plymouth.
Grover, Alfred Woodward, 256 Maple St., Kingston.
Guthrie, George W., 109 South Franklin St.
Guthrie, Malcolm, C., 109 South Franklin St.
Hartman, William L., Pittston.
Harvey, Olin F., 463 South Franklin St.
Hauslohner, Austin Ladimar, 32 North Washington St.
Hinrichs, August G., Pittston.
Hislop, John, Miners Mills.
Hoffman, George L., 1110 Wyoming Ave., Kingston.
Howell, John T., 84 North Main St.
Howorth, John, 236 North Washington St.
Hubler, Philip F., Pittston.
James, Thomas A., 35 North Main St., Ashley.
Jennings, Joseph A., Pittston.
Johnson, Frederick C., 22 West Union St.
Keller, Harry M., Hazleton.
King, James Joseph, 215 East 42d St., New York, care of St. Bartholomew's Clinic.
Kirschner, John W., 63 Main St., Luzerne.
Kistler, Oliver F., 43 North Franklin St.
Knapp, Charles P., Wyoming.
Koons, Robert O., Conyngham.
Krajewski, Frank J., 46 S. Washington St.
Lake, David H., 137 Maple St., Kingston.
Lance, Ruth Mitchell, 284 Wyoming Ave., Kingston.
Lathrop, Walter, Hazleton.
Lenahan, Frank P., 55 South Washington St.
Lenahan, Hugh J., Pittston.
Long, Charles, 33 South Washington St.
Long, Charles A., Muhlenburg.
Longshore, William R., Hazleton.
Lynott, William A., 60 S. Washington St.
McClintock, Andrew T., 44 South River St.
McConnon, George H., 246 E. Northampton St.
McFadden, Charles J., 42 N. Main St., Pittston.
McGuire, William J., 357 East South St.
McHugh, John J., Parsons.
McLaughlin, Patrick A., Kingston.
McLaughlin, Thomas V., 68 S. Washington St.
MacKellar, James, Hazleton.
Mahon, John B., Pittston.
Marvin, Merton E., 19 Main St., Luzerne.
Matlack, Granville T., 33 W. Northampton St.
Mayock, Peter P., 49 South Washington St.
Meixell, Edwin M., 25 West Ross St.
Mengel, Samuel P., Parsons.
Meyers, Elmer L., 17 West South St.
Miner, Charles H., 115 South Franklin St.
Molinelli, John H., Pittston.
Mundy, Leo C., 400 Scott St.
Murray, Michael A., 243 S. Washington St.
Myers, N. Ray, Wanamie.
Neale, Henry M., Upper Lehigh.
Nealon, James M., Plymouth.
NeuBurger, Gilbert M., Cumberland Building.
Newth, John H., Pittston.
Nurse, Charles T. C., 18 East Jackson St.
Perry, George B., Pittston, R.D. (Orange).
Person, John A., 240 Scott St.
Prevost, Clarence W., Pittston.
Ransom, Herbert LeRoy, Pittston.
Redelin, Albert Augustus, Freeland.
Reese, William C., 113 South Main St.
Richards, Emrys, 6 West Jackson St.
Richards, William L., 24 North Meade St.
Robinhold, Daniel G., 1170 Wyoming Ave., Kingston.
Roderick, Edward R., 92 South Franklin St.
Roe, J. Irving, 34 North Washington St.
Rogers, Lewis Leonidas, 268 Wyoming Ave., Kingston.
Ross, Nathaniel, 141 Hanover St.
Ruffner, Samuel A., 169 S. Maple St., Kingston.
Rumbaugh, Marshall Cloyd, Dorranceton.
Santee, Charles L., Wapwallopen.
Schappert, N. Louis, 57 South Washington St.
Scheifly, John E., 174 S. Maple St., Kingston.
Shafer, Charles Layton, Kingston.
Shaw, John F., 408 N. Main St.
Sheridan, Lawrence A., 362 North Main St.
Sickler, Parke C., 90 Academy St.
Smith, A. Burton, Wyoming.
Smith, W. Clive, 132 South Franklin St.
Smith, Ziba L., West Nanticoke.
Stewart, Walter S., 98 South Franklin St.
Stiff, William Clifton, Plymouth.
Stoeckel, Louise M., N. Franklin and Union Sts.
Stricker, William B., Nanticoke.
Taylor, Lewis H., 83 South Franklin St.
Taylor, Richard P., 25 South Washington St
Teitsworth, I. Robertson, 25 Main St., Luzerne.
Templeton, Harry G., Plymouth.
Tobias, John B., 305 E. Northampton St.
Trapold, August, 239 South Washington St.
Tressler, Charles W., Shickshinny.
Tuckenmiller, Roy, Freeland.
Underwood, Sanford L., Pittston.
Wadhams, Raymond L., 72 North Franklin St.
Wagner, Earl E., 210 Parrish St.
Wagner, Edward C. O., 125 S. Washington St.
Wetherby, Benedict J., 64 North Franklin St.
Wetherby, Della P., 64 North Franklin St.
Whitney, Harry LeRoy, Plymouth.
Wilcox, Homer B., 165 Maple St., Kingston.
Williams, James T., The Radnor, 63 S. Washington St.
Woehrle, Robert S., Miners Mills.
Wolfe, Samuel M., 127 Academy St.
Wyckoff, Sarah Delia, 68 West South St.

LYCOMING COUNTY SOCIETY.

(Organized 1849.)

(Williamsport is the post office when street address only is given.)

President...Randall B. Hayes, Jersey Shore.
V. Pres.....H. M. Ritter, 37 W. Fourth St.
Robert H. Milnor, Warrensville.
Secretary...C. E. Shaw, 432 W. Fourth St.
Treasurer...John P. Harley, 106 E. Fourth St.
Reporter....Wesley F. Kunkle, 519 Seventh Ave.
Censors.....C. W. Youngman, 601 Pine St.
John A. Klump, 331 Elmira St.
H. G. McCormick, 430 W. Fourth St.
G. Franklin Bell, Newberry.
George D. Nutt, 430 Pine St.

Trustees....Randall B. Hayes, Jersey Shore.
C. E. Shaw, 342 W. Fourth St.
John P. Harley, 106 E. Fourth St.
Alem P. Hull, Montgomery.
Waldo W. Hull, 626 West Third St.

Com. on Pub. Policy and Legislation..H.G. McCormick, 430 W. Fourth St.
Randall B. Hayes, Jersey Shore.
C. E. Shaw, 342 W. Fourth St.

Stated meetings at City Hospital, Williamsport, second Friday of each month at 2 P. M. Annual meeting in January.

MEMBERS (104).

Adams, Charles M., 1025 West Fourth St.
Adams, F. R., Watsontown.
Albright, Joseph W., Muncy.
Bastian, Charles B., 48 West Fourth St.
Beach, John D., 234 West Third St.
Bell, G. Franklin, 821 Diamond St., Newberry.
Born, Reuben H., Montoursville.
Brenholtz, William S., 215 East Third St.
Brown, John C., 4 East Third St.
Campbell, Eugene B., 42 West Fourth St.
Campbell, John A., 838 Funston Ave., Newberry.
Castlebury, Alzine M., 945 Campbell St.
Castlebury, Frank Fullmer, Roaring Branch.
Chaapel, Victor P., 2017 W. Fourth St., Newberry.
Clinger, Joseph A., Milton (Northum. Co.).
Collier, Martin H., 821 Louisa St.
Cooner, Charles C., Picture Rocks.
Cotton, Julia C., Jersey Shore.
Cummings, Charles J., 755 West Fourth St.
Dandois, G. Frank, Ralston.
Davis, George C., Milton (Northum. Co.).
Delaney, William E., Slate Run.
Derr, Joseph L., Lairdsville.
Donaldson, Harry J., 106 East Fourth St.
Dougal, James S., Milton (Northum. Co.).
Drick, George R., 106 East Fourth St.
Ecroyd, Henry, Muncy.
Emerick, Henry M., Milton (Northum. Co.).
Essick, Howard M., Essick Heights.
Everett, Edward, Millville (Columbia Co.).
Fleming, J. Frank, Trout Run.
Fulmer, Joseph Cleveland, 1116 E. Third St.
Glosser, William E., 440 Market St.
Goodman, Lee M., Jersey Shore.
Gordner, J. Frank, Montgomery.
Hardt, Albert F., 414 Pine St.
Harley, John P., 106 East Fourth St.
Haskin, Herbert P., 324 High St.
Hayes, Randall B., 1225 Allegheny St., Jersey Shore.
Heller, Charles E., 214 East Third St.
Hull, Alem P., Montgomery.
Hull, Elmer S., Montgomery.
Hull, Waldo W., 626 West Third St.
King, William L., Muncy.
Klump, George B., 331 Elmira St.
Klump, John A., 331 Elmira St.
Konkle, W. Bastian, Montoursville.
Kunkle, Wesley F., 519 Seventh Ave.
Lamade, Albert C., 42 East Fourth St.
Langley, Lewis Elsworth, 438 Market St.
Lehman, Charles H., 831 Diamond St.
Logue, William P., 240 Pine St.
Lyon, Edward, 24 West Fourth St.
McCormick, Horace G., 430 West Fourth St.
Mansuy, J. Louis, Ralston.
Marsh, William G., Watsontown (Northum.Co.).
Meddaugh, Fred, 254 Pine St.
Mench, Martin L., Jersey Shore.
Metzgar, George W., Hughesville.
Miller, William H., 18 East Third St.
Milnor, Robert H., Warrensville.
Mohn, Charles L., Jersey Shore.
Mosher, James S., 10 W. Third St.
Nevling, Ferdinand S., Clearfield (Clearfield Co.).
Nutt, George D., 430 Pine St.
Nutt, John, 440 Pine St.
Persing, Amos V., Allenwood (Union Co.).
Poust, G. Alvin, Hughesville.
Rank, Lee Russell, Milton (Northum. Co.).
Rankin, James R., Muncy.
Raper, Thomas W., 20 West Fourth St.
Reilly, Peter C., 229 Market St.
Rewalt, Robert, 801 West Fourth St.
Reynolds, Walter B., 421 First Ave.
Ritter, Ella N., 1211 West Fourth St.
Ritter, George T., 319 West Fourth St.
Ritter, H. Murray, 37 West Fourth St.
Rote, William H., 51 West Third St.
Sanford, Frederick G., Jersey Shore.
Schaefer, J. Elmer, Cogan Station.
Schneider, Charles, 1501 Southern Ave.
Schneider, George L., 16 West Third St.
Senn, Carl H., 443 Market St.
Senn, John, 247 Washington St.
Senn, Walter W., 339½ Market St.
Shaw, Clarence E., 342 West Fourth St.
Shindel, William L., Sunbury (Northum. Co.).
Shull, John D., Union Depot, Baltimore, Md.
Shuman, Warren N., Jersey Shore.
Smith, Morton H., Hughesville.
Steans, Ralph, Lewisburg (Union Co.).
Stickel, Jacob, 714 West Fourth St.
Stroble, G. Walter, Liberty (Tioga Co.).
Thornton, Thomas C., Lewisburg (Union Co.).
Trainer, Robert F., 310 Elmira St.
Truckenmiller, Wm.U., Allenwood (Union Co.).
Tule, R. Bruce, 115 Elm St., Milton (Northumberland Co.).
VanHorn, John W., Montoursville.
Voorhees, Charles D., Hughesville.
Wagenseller, Benjamin F., Selins Grove (Snyder Co.).
Welker, Abraham T., Collomsville.
Wilkinson, Truman G., 2110 East Chelten Ave., Philadelphia (Philadelphia Co.).
Wood, T. Kenneth, Muncy.
Youngman, Charles W., 601 Pine St.

McKEAN COUNTY SOCIETY.

(Organized June 18, 1880.)

President...Harris A. Canfield, Bradford.

V. Pres.....Thomas L. Kane, Kane.
Sec., Treas.
and Rept...James Johnston, Bradford.
Censors.....William P. Burdick, Kane.
Louis Daniel Joseph, Bradford.
Bret H. Hall, Bradford.

Com. on Pub.
Policy and
Legislation..Joseph H. Rebison, Bradford.
A. Miner Straight, Bradford.
Charles D. F. O'Hern, Bradford.

Stated meetings at place selected the first Tuesday of each month. Election of officers in January.

MEMBERS (48).

Armstrong, William J., Kane.
Ash, Dunham E., East Bradford.
Ash, Garrett G., Bradford.
Beaver, George Washington, Bradford.
Benninghoff, George E., Bradford.
Burdick, William P., Kane.
Canfield, Harris A., Bradford.
Clark, John, Smethport.
Cox, Milo W., Kane.
Cummings, George M., Betula.
Dana, Lawrence W., Kane.
Dolan, Lawrence W., Kane.
Egbert, Rufus A., Custer City.
Elliott, Charles F., Dayton, N. Y.
Fredericks, William J., Bradford.
Glenn, Thomas O., Bradford.
Haines, Samuel H., East Bradford.
Hall, Bret H., Bradford.
Hanum, Oscar S., Custer City.
Hayes, Mary J., Kane.
Heimbach, James M., Kane.
Hogan, William C., Bradford.
Howe, Llewellyn O., Bradford.
Johnson, Frederick C., Mont Alto (Franklin Co.).
Johnston, James, Bradford.
Joseph, Louis Daniel, Bradford.
Kane, Evan O., Kane.
Kane, Thomas L., Kane.
Kunkel, Oscar F., Bells Camp.
McCoy, Henry L., Smethport.
McLean, Earle McCormack, Eldred.
Moyer, Walter S., Rixford.
Nichols, Henry James, Bradford.
O'Hern, Charles D. F., Bradford.
Ostrander, William A., Smethport.
Paton, Fred Wade, Bradford.
Robison, Joseph H., Bradford.
Russell, Reister K., Bradford.
Satterlee, Sylvester S., Custer City.
Snyder, Oscar Burton, Duke Center.
Stewart, James B., 103 Main St., Bradford.
Straight, A. Miner, Bradford.
Straight, Persis Rosamond, Bradford.
Sweeney, Martin J., Kane.
Tucker, Adelaide Griffin, Bradford.
White, Benjamin Franklin, Bradford.
Winger, Frederick W., Bradford.
Woodhead, Irvin H., Bradford.

MERCER COUNTY SOCIETY.

(Organized 1848.)

President...Paul T. Hope, Mercer.
V. Pres.....Ernest F. Nelson, Grove City.
Arthur A. Parks, Fredonia.
Sec. and
Reporter....Patrick E. Biggins, Sharpsville.
Treasurer...Addison E. Cattron, Sharpsville.
Censors.....Robert M. Hope, Fredonia, 1 yr.
B. E. Mossman, Jr., Greenville, 2 yrs.
J. H. Twitmyer, Sharpsville, 3 yrs.

Com. on Pub.
Policy and
Legislation..John M. Martin, Grove City.
Wm. G. Berryhill, Farrell.
Robert M. Hope, Fredonia.

Stated meetings second Friday in January, March, May, July, September and November at such place as society shall direct. Election of officers in January.

MEMBERS (73).

Bachop, John C., Sheakleyville.
Bailey, Carl, Jamestown.
Bakewell, Frank S., Greenville.
Barnes, Matthew A., Pardoe.
Battinger, Fredrick O., Greenville.
Berryhill, William G., Farrell.
Biggins, Patrick E., Sharpsville.
Blakeney, Frank, Grove City.
Breene, Lawrence N., Farrell.
Brown, Robert W., Greenville.
Brown, David A., Greenville.
Calvert, Joseph F., Sandy Lake.
Cattron, Addison E., Sharpsville.
Cheesman, John C., Grove City.
Cooley, Judson, Sandy Lake.
Crow, Samuel C., Farrell.
Elliott, John W., Sharon.
Elliott, Thomas, Sharon.
Ferringer, John E., Stoneboro.
Fisher, Philip P., Sharon.
Frye, Benjamin A., Sharpsville.
Grace, Thomas J., Clarks Mills.
Hanna, David B., Stoneboro.
Heilman, Ralph, Sharon.
Heilman, Salem, Sharon.
Hillier, Joseph W., West Middlesex.
Hoffman, James D., Jackson Center.
Hogue, Thomas F., Fredonia.
Hoon, Anthony I., Mercer.
Hope, Paul T., Mercer.
Hope, Robert M., Fredonia.
Hunter, John A., West Middlesex.
Hyde, Allan P., Sharon.
Jackson, Thomas M., Hadley.
Jones, Orlando A., Sharon.
Kennedy, George W., Sharon.
Knipple, Frank W., Mercer.
MacBride, Martha Edith, Grove City.
McCartey, John R., St. Cloud, Fla
McConnell, Edwin M., Oil City.
McElhaney, Clarence W., Greenville.
McKenstry, Guy H., 118 Wade Ave., Washington (Washington Co.).
Marshall, Clifford, Sharon.
Martin, John M., Grove City.
Matta, Florence B., 29 West State St., Sharon
Mehler, Carl J., Sharon.
Mitchell, Andrew J., Sharon.
Mitchell, Thomas H., Jamestown
Montgomery, Beriah A., Grove City
Mossman, B. Edwin, Jr., Greenville

Mossman, Beriah E., Greenville.
Nelson, Ernest F., Grove City.
O'Brien, Augustus M., 711 Linden St., Scranton (Lackawanna Co.).
Parks, Arthur A., Fredonia.
Phillips, William H., Greenville.
Reed, Joseph H., Sharon.
Richardson, William W., Mercer.
Rickenbrode, Charles O., Farrell.
Robinson, Charles S., New Lebanon.
Sprowl, John P., Grove City.
Tidd, Ralph M., Clark.
Tinker, Burgoyne E., West Middlesex.
Tinker, Guert M., Sharon.
Twitmyer, John H., Sharpsville.
Walker, Charles I., Sharon.
Washabaugh, David J., Grove City.
Weidman, J. Clayton, Mercer.
Williams, Charles B., Sharon.
Wilson, Homer S., Grove City.
Wilson, William L., Grove City.
Woods, Samuel A., Sharon.
Wyant, William W., Farrell.
Yeager, M. George, Mercer.

MIFFLIN COUNTY SOCIETY.

(Organized March 4, 1874.)

President...Charles H. Brisbin, Lewistown.
V. Pres.....Thomas H. Smith, Burnham.
Charles J. Stambaugh, Reedsville.
Sec. and Librarian...James A. C. Clarkson, Lewistown.
Treasurer...A. S. Harshberger, Lewistown.
Reporter....Frederick A. Rupp, Lewistown.
Censors.....Henry W. Sweigart, Lewistown.
Walter H. Parcels, Lewistown.
Vincent I. McKim, Burnham.
Com. on Pub. Policy and Legislation..A. S. Harshberger, Lewistown.
Robert T. Barnett, Lewistown.
Silas M. Hazlett, Allensville.
Thomas H. Smith, Burnham.
J. A. Carney, Milroy.
Benjamin R. Kohler, Reedsville.

Stated meetings in Lewistown or elsewhere as may be selected, on the first Thursday of each month. Election of officers in December.

MEMBERS (32).

Alexander, Hugh S., Belleville.
Baker, William M., Lewistown.
Barnett, Robert T., Lewistown.
Boyer, Samuel J., Siglerville.
Brisbin, Charles H., Lewistown.
Campbell, Marsden D., Belleville.
Carney, J. A., Milroy.
Clarkson, James A. C., Lewistown.
Getter, John P., Belleville.
Harshberger, Alexander S., Lewistown.
Hazlett, Silas M., Allensville.
Hunter, John R. W., Lewistown.
Johnson, Charles M., McVeytown.
Johnson, Richard M., McVeytown.
Koenig, Arthur S., Lewistown.
Kohler, Benjamin R., Reedsville.
Kohler, William H., Milroy.
McKim, Vincent I., Burnham.
Mahr, Irving Oliver, Newton Hamilton.
Miller, Henry E., McAlevys Fort (Huntingdon Co.).
Mitchell, James W., Lewistown.
Moorhouse, William G., Renovo (Clinton Co.).
Nipple, D. Clark, Mt. Union (Huntingdon Co.).
Parcels, Walter H., Lewistown.
Rothrock, Samuel H., Reedsville.
Rupp, Frederick A., Lewistown.
Smith, Thomas H., Burnham.
Stambaugh, Charles J., Reedsville.
Steele, Bruce P., McVeytown.
Sweigart, Henry W., Lewistown.
Swigart, Samuel W., Lewistown.
Wilson, Walter S., Lewistown.

MONROE COUNTY SOCIETY.

(Organized November 24, 1902.)

President...Esther W. Gulick, Stroudsburg.
V. Pres.....J.H. Stearns, Delaware Water Gap.
Secretary...S. W. L'Amoreaux, Stroudsburg.
Treasurer...Charles S. Logan, Stroudsburg.
Reporter....F. H. Brown, North Water Gap.
Censors.....Alvin A. Wertman, Tannersville.
Eugene H. Levering, Stroudsburg.
Com. on Pub. Policy and Legislation..Rogers J. Levering, Snydersville.
J. Anson Singer, E. Stroudsburg.

Regular meetings held in Miller Hall, Stroudsburg, the first Wednesday in each month at 2:30 P.M. Annual meeting in January.

MEMBERS (27).

Angle, Walter L., East Stroudsburg.
Brown, Fannie Hurd, North Water Gap.
DeKay, Julius Miner, Mountain Home.
Gulick, Esther W., Stroudsburg.
Hagenbauch, Phoebe H. F., Stroudsburg.
Hagerman, John A., Sciota.
Henry, John C., East Stroudsburg.
L'Amoreaux, Samuel W., Stroudsburg.
Levering, Eugene H., Stroudsburg.
Levering, Rogers J., Snydersville.
Levering, William R., Stroudsburg.
Logan, Charles Shaw, Stroudsburg.
Longacre, Elsie U. L., Tannersville.
Miller, Joseph F., Stroudsburg.
Miller, Nathaniel C., Stroudsburg.
Parsons, Harry T.
Rhoads, George H., Tobyhanna.
Ritter, Frederick William, Tannersville.
Shull, Joseph H., Stroudsburg.
Shupp, Eugene A., Kunkletown.
Singer, J. Anson, East Stroudsburg.
Smith, Louis B., Bushkill (Pike Co.).
Stearns, John Henry, Delaware Water Gap.
Stotz, Joseph A., Brodheadsville.
Trach, David C., Kresgeville.
VanEtten, Harry S., Stroudsburg.
Wertman, Alvin A., Tannersville.

MONTGOMERY COUNTY SOCIETY.

(Organized January, 1847.)

President...Frank C. Parker, Norristown.
V. Pres.....Herbert A. Bostock, Norristown.
Warren Z. Anders, Trappe.
Secretary...Harry H. Whitcomb, Norristown.
Cor. Sec. and Rept....Edgar S. Buyers, Norristown.

Treasurer...William G. Miller, Norristown.
Censors.....Charles H. Mann, Bridgeport.
C. Zeigler Weber, Norristown.
George F. Hartman, Port Kennedy.

Com. on Pub.
Policy and
Legislation..Philip Y. Eisenberg, Norristown.
Oliver C. Heffner, Pottstown.
Joseph K. Weaver, Norristown.

Lib. Com...George W. Miller, Chairman, Norristown.
J. L. D. Eisenberg, Norristown.
Henry C. Welker, Norristown.

Stated meetings in Charity Hospital, Norristown, at 2:30 P.M. on the first and third Wednesdays of every month, excepting July and August. Election of officers in January.

MEMBERS (97).

Allen, Frederick B., North Wales.
Anders, Warren Z., Trappe.
Arnold, Herbert A., Ardmore.
Ashenfelter, William J., Pottstown.
Baggs, Albert M., Abington.
Beaver, David R., Conshohocken.
Benner, Ervin F., Salfordville.
Blanck, Joseph E., Green Lane.
Bostock, Herbert A., Norristown.
Branson, Thomas F., Rosemont.
Brown, Joel D., Oaks.
Bushong, Frederic, Pottstown.
Buyers, Edgar S., Norristown.
Carpenter, Samuel A., Phoenixville (Chester Co.).
Clapp, George Houghton, Pottstown.
Cloud, Joseph Howard, Ardmore.
Corson, Edward Foulk, Cynwyd.
Corson, Joseph K., Plymouth Meeting.
Corson, Percy H., Plymouth Meeting.
Donaldson, Albert Barnes, Bala.
Doran, Charles F., Phoenixville (Chester Co.).
Drake, Howard H., Norristown.
Egbert, Joseph C., Wayne (Delaware Co.).
Eisenberg, J. Lawrence D., Norristown.
Eisenberg, Philip Y., Norristown.
Evans, Alexander R., Gladwyne.
Fabbri, Remo, 354 E. Main St., Norristown.
Faries, Clarence T., Narberth.
Galbreath, John A., 366 High St., Pottstown.
Godfrey, Andrew, Ambler.
Graber, Henry, Royersford.
Graber, John D., Royersford.
Groff, John W., N.W. Cor. Broad and Tioga Sts., Philadelphia (Philadelphia Co.).
Hartman, George F., Port Kennedy.
Heffner, Oliver C., Pottstown.
Hersh, John G., East Greenville.
Highley, George N., Conshohocken.
Horning, Samuel B., Collegeville.
Hough, Charles B., Ambler.
Hubley, Benjamin F., Norristown.
Hunsberger, J. Newton, Norristown.
Irwin, George R., Bridgeport.
Jameson, William B., Jenkintown.
Kell, Elmer A., 315 King St., Pottstown.
Knipe, Jacob O., Norristown.
Knipe, Reinoehl, Norristown.
Knipe, William H., Limerick.
Krieble, Elmer G., Worcester.
Lakin, H. Pearce, Lansdale, R.D. 2.
Lieders, Charles Williamson, Cynwyd.
Lukens, George T., Conshohocken.
McKenzie, William, Conshohocken.
McKinniss, Clyde R.,State Hospital,Norristown.
Mann, Charles H., Bridgeport.
Marklay, John Morris, Graterford.
Miller, George W., Norristown.
Miller, S. Metz, State Hospital, Norristown.
Miller, William G., Norristown.
Nathan, David, Norristown.
Neiffer, Milton K., Wyncote.
Neiman, Howard Y., Pottstown.
Oberholtzer, Morris B., Soudertown.
Parker, Frank C., Norristown.
Podall, Harry C., State Hospital, Norristown.
Porter, Frederick C.,State Hospital,Norristown.
Potter, J. Elmer, Pottstown.
Pyfer, Howard F., Norristown.
Quinn, Elwood T., Jenkintown.
Rahn, Norman H., Souderton.
Read, Alfred H., Norristown.
Reed, Henry D., Pottstown.
Roberts, Willis Read, Norristown.
Roth, John A., Red Hill.
Scholl, Harvey F., Green Lane.
Scholl, Henry Nathaniel, Kulpsville.
Seiple, J. Howard, Center Square.
Sharpless, Frederic C., Rosemont.
Slifer, Henry F., North Wales.
Spencer, Elizabeth C., Norristown.
Stein, George W., Norristown.
Thomas, J. Quincy, Conshohocken.
Tyler, Benjamin F., Royersford.
Umstad, John R., Norristown.
VanBuskirk, Frederick W., Pottstown.
Weaver, Joseph K., Norristown.
Weber, C. Zeigler, Norristown.
Weber, Mathias Y., Lower Providence.
Welker, Henry C., Norristown.
Whitcomb, Harry H., Norristown.
Wiley, S. Nelson, Norristown.
Wills, Leon C., Bridgeport.
Wills, T. Edmund, Pottstown.
Wilson, Francis S., Jenkintown.
Wolfe, R. Vincent, Norristown.
Wolfe, Mary M.,Holmesburg (Philadelphia Co.).
Wright, Winfred J., Skippack.
Wylie, Charles R., 558 High St., Pottstown.

MONTOUR COUNTY SOCIETY.

(Organized June 15, 1874.)

V. Pres.....George A. Stock, Danville.
Benjamin E. Bitler, Pottsgrove.

Sec. and
Reporter....Cameron Shultz, Danville.
Teasurer...James E. Robbins, Danville.
Censors.....Reid Nebinger, Danville.
Hugh B. Meredith, Danville.
Edwin A. Curry, Danville.

Com. on Pub.
Policy and
Legislation..Hugh B. Meredith, Danville.
George A. Stock, Danville.
Edwin A. Curry, Danville.

Stated meetings in Danville the third Friday in January, March, May, June, August, October and November at 8 P.M. Election of officers in January.

MEMBERS (18).

Ashenhurst, Ida M., Danville.
Bitler, Benjamin E., Pottsgrove (Northum.Co.).
Curry. Edwin A., Danville.
Free, George B. M., State Hospital, Danville.
Gordner, Jesse W., Jerseytown (Columbia Co.).
Hammers, James S., State Hospital, Danville.
Hauser, Raymond J., Danville.
Krickbaum, William H., Danville.
Mayberry, Charles B., Retreat (Luzerne Co.).
Meredith, Hugh B., Danville.
Nebinger, Reid, Danville.
Newbaker, Philip C., Danville.
Patten, Robert Swift, Danville.
Robbins, James E., Danville.
Sandel, John H., Danville.
Shultz, Cameron, Danville.
Snyder, John Howard, Washingtonville.
Stock, George A., Danville.

NORTHAMPTON COUNTY SOCIETY.

(Organized July 10, 1849.)

President...James J. Quiney, Easton.
V. Pres.....Henry C. Pohl, Nazareth.
W. H. Rentzheimer, Hellertown.
Secretary...W. Gilbert Tillman, Easton.
Cor. Sec....Frederick E. Ward, Easton.
Treasurer...Clinton F. Stofflet, Pen Argyl.
Reporter....Wm. P. Walker, South Bethlehem.
Censors.....Charles McIntire, Easton.
C. C. McCormick, Pen Argyl.
Edwin D. Schnabel, Bethlehem.
Com. on Pub.
Policy and
Legislation..Wm. P. O. Thomason, Easton.
Noah W. Reichard, Bangor.
Henry J. Laciar, Bethlehem.

Meetings shall be held at 11 A.M. on the third Friday of every month except August at such places as the society may determine by vote. Outing meeting in July.

MEMBERS (111).

Anderson, George R., Easton.
Apple, Samuel S., Easton.
Babcock, Levis C., Bethlehem.
Bachman, David Floyd, 204 E. Third St., South Bethlehem.
Beck. Charles E., Portland.
Beck. Richard H., Hecktown.
Blank. Oscar F., Bethlehem.
Bloss, Raymond H..W.Bethlehem (Lehigh Co.).
Boyle, Patrick F., South Bethlehem.
Butler, Thomas James, South Bethlehem.
Carty, Harry B., Freemansburg.
Chambers, Francis S., 79 N. Fourth St., Easton.
Chase, Walter D., Bethlehem.
Collmar, Charles. Easton.
Condron. James J., 362 Berwick St., Easton.
Cope. Thomas, Nazareth.
Cope, William F., Easton.
Deibert, Edward J., Hellertown.
Dilliard, Benjamin F., East Bangor.
Dudley, William H., Exchange Building, Los Angeles, California.
Edwards, H. Threlkeld, South Bethlehem.
Engleman. David, Easton.
Estes, William L., 805 Delaware Ave., South Bethlehem.
Estes, William Lawrence, Jr., South Bethlehem.
Evans, E. William, Easton.
Fetheroff, James Allen, Stockertown.
Field, Benjamin Rush, Easton.
Field, George B. Wood, Easton.
Fisler, Harry Cattell, Easton.
Fox, Arthur S., 1418 Washington St., Easton.
Fox, Gustav T., Bath.
Fraunfelder, Jacob A., Nazareth.
Fretz, John E., Easton.
Glick, William H., 825 East Third St., South Bethlehem.
Green, Edgar M., Easton.
Hahn, Frank J., Bath.
Heller, Henry D., Hellertown.
Hoey, Rollo H., Easton.
Hoffman, Edward L., 1148 Northampton St., Easton.
Howerter, Wm. Franklin, Wind Gap.
Hunt, Joseph S., Easton.
Johnson, Irwin N., Pen Argyl.
Kachline, John C., 305 South Third St., South Bethlehem.
Keim, Ambrose M., Bethlehem.
Keller, David H., Bangor.
Keller, John C., Wind Gap.
Kemper, Arthur Shultz, Bethlehem.
Kessler, Frank J., Easton.
Klock, Glenn G., Easton.
Kisner, Allen Oscar, Bethlehem.
Koch, John G., Petersville.
Koch, Victor J., Nazareth.
Kotz, Adam L., Easton.
Laciar, Henry J., Bethlehem.
Leigh, Herbert Crozier, Burke and Cattell Sts., Easton.
Longacre, Jacob E., Weaversville.
Love, J. King, Easton.
Ludlow, David Hunt, Easton.
McCormick, Cardinal Claude, Pen Argyl.
McIlhaney, William H., South Easton.
McIntire, Charles, Easton.
Messinger, Victor S., Easton.
Michler, Henry D., Easton.
Miesse, Kate DeW., Easton.
Miller, Elmer C., East Bangor.
Morganstern, James A., 137 S.Third St.,Easton.
Oesterreicher, Edward C., Bethlehem.
Ott, Isaac, Easton.
Phillips, M. W., Chapman Quarries.
Pohl, Henry C., Nazareth.
Quiney, James J., 309 Bushkill St., Easton.
Raub, R. S., 914 Northampton St., Easton.
Reagan, Arthur D., Easton.
Reaser, Budd Jamison, Martins Creek.
Reichard, Noah W., Bangor.
Rentzheimer, William H., Hellertown.
Richards, Ellerslie Wallace. South Easton.
Richards, Oscar M., South Easton.
Roberts, Frederick C., Easton.
Roebuck, John H., Bethlehem.
Rosenberry, Edward S., Stone Church.
Salzman, Jacob Yetter, South Bethlehem.
Santee, Delbert Kansas, South Bethlehem.
Schnabel, Edwin D., Bethlehem.
Schmoyer, Herbert John, Bethlehem.
Seem, Albert A., Bangor.
Seip, William H., Bath.
Sheridan, Rose B., South Bethlehem.
Sherrer, Frederick A., Easton.

Shimer, Sterling D., Easton.
Stem, Preston E., South Bethlehem.
Stofflet, Clinton F., Pen Argyl.
Stout, Abraham, Bethlehem.
Swan, Tyrus E., Easton.
Swoyer, Oscar D., South Bethlehem.
Thomason, William P. O., Easton.
Tillman, W.Gilbert,1803 Washington St.,Easton.
Uhler, Stewart Mann, Pen Argyl.
Uhler, Sydenham P., Easton.
Uhler, Tobias M., 3120 Montgomery Ave., Philadelphia (Philadelphia Co.).
Updegrove, Jacob D., Easton.
Walker, William P., South Bethlehem.
Walter, Isidor, 1708 South Fifth St., Philadelphia (Philadelphia Co.).
Walter, Mitchell, South Bethlehem.
Walter, Robley D., 842 Northampton St.,Easton.
Ward, Frederick E., 200-201 Easton Trust Co. Building, Easton.
Weaver, Henry F., Easton.
Welden, C. F., Bethlehem.
Wilson, John H., 169 W. Broad St., Bethlehem.
Ziegenfuss, Nathan, South Bethlehem.
Zulick, Thomas C., Easton.

NORTHUMBERLAND COUNTY SOCIETY.

(Reorganized November 27, 1903.)

President...Michael J. Flanagan, Snamokin.
V. Pres.....Charles E. Allison, Elysburg.
Frederick D. Raker, Shamokin.
Sec. Rept...Horatio W. Gass, Sunbury.
Asst. Sec. and Treasurer...Robert B. McCay, Sunbury.
Asst. Ed....Henry T. Simmonds, Shamokin.
Robert B. McCay, Sunbury.
Censors.....Charles H. Swenk, Sunbury.
Lester E. Schoch, Shamokin.
Henry T. Simmonds, Shamokin.
Com. on Pub. Policy and Legislation..Harvey M. Becker, Sunbury.
Horatio W. Gass, Sunbury.
John B. Cressinger, Sunbury.

Stated meetings at 2 P.M. in Sunbury, the first Wednesday of January, March, May, September and November, and in Shamokin or such place as the society shall designate, the first Wednesday in February, April, June, October and December. Annual meeting in January.

MEMBERS (48).

Allison, Charles Edward, Elysburg.
Bealor, Benjamin A., Shamokin.
Bealor, John W., Shamokin.
Becker, Harvey M., Sunbury.
Bickel, Edwin Forest, Shamokin.
Burg, Stoddard Somers, Northumberland.
Campbell, Charles F., Sunbury.
Cressinger, John Brice, Sunbury.
Deitrick, George A., Sunbury.
Drumheller, Francis E., Sunbury.
Eister, W. Howard, Augustaville.
Faughnan, P. Joseph, Locust Gap.
Flanagan, Michael J., Shamokin.
Forcey, Chas. B., Ambridge (Beaver Co.).
Gass, Horatio W., Sunbury.
Geise, Samuel B., Sunbury.
Gerberich, Enos A., Shamokin.
Graham, William T., Sunbury.
Hanlon, William J., Mt. Carmel.
Heilman, D. Franklin, Northumberland.
Holt, Lloyd Mott, Shamokin.
Knights, Agnes Sholly, Shamokin.
Kuntz, John Mosier, Delano (Schuylkill Co.).
Lyons, Fowler, Turbutville.
McCay, Mary A., Sunbury.
McCay, Robert B., Sunbury.
Malick, Clarence Hiram, Rebuck.
Malone, Clarence M., Shamokin.
Maurer, James M., Shamokin.
Meek, Frank J., Shamokin.
Poffenberger, Albert T., 251 Arch St., Sunbury.
Poffenberger, Joseph C., 251 Arch St., Sunbury.
Raker, Frederick D., Shamokin.
Ratajski, Joseph E., Mt. Carmel.
Ranck, Lee Russell, Milton.
Rice, Charles W., Northumberland.
Salters, Oscar E., Shamokin.
Schnader, Amos B., Mt. Carmel.
Schoch, Lester Edgar, Shamokin.
Schoffstall, Joseph W., Sunbury.
Simmonds, Henry Thomas, Shamokin.
Simmons, Richard H., Shamokin.
Smith, Ellis A., Sunbury.
Steck, Fred P., Shamokin.
Swenk, Charles H., Sunbury.
Thomas, Charles Meade, Sunbury.
Vastine, John H., Shamokin.
Weimer, Clay H., Shamokin.

PERRY COUNTY SOCIETY.

(Organized November 19, 1849.)

President...E. Kenneth Wolff, Ickesburg.
V. Pres.....William T. Morrow, Loysville.
Benjamin F. Beale, Duncannon.
Secretary...A. R. Johnston, New Bloomfield.
Treasurer...W. Homer Hoopes, Newport.
Censors.....Henry O. Orris, Newport.
W. Homer Hoopes, Newport.
Charles E. Delancy, Newport.
Com. on Pub. Policy and Legislation..Edward E. Moore, New Bloomfield.
Benjamin F. Beale, Duncannon.
Frank A. Gutshall, Blain.

Annual meeting at New Bloomfield, second week in January. Other meetings at places and times selected; at least four during the year.

MEMBERS (17).

Allen, William J., Landisburg.
Beale, Benjamin F., Duncannon.
Delancy, Charles E., Newport.
Gault, George Washington, Marysville.
Gutshall, Frank A., Blain.
Hoopes, W. Homer, Newport.
Johnston, A. Russell, New Bloomfield.
Moore, Edward E., New Bloomfield.
Morrow, William T., Loysville.
Orris, Henry O., Newport.
Patterson, Frank, 2520 Broad Ave., Altoona (Blair Co.).
Reutter, Henry D., Duncannon.
Sheibly, John A., Shermansdale.
Thompson, James F., Liverpool.
VanDyke, Arthur D., Marysville.
Wolff, E. Kenneth, Ickesburg.
Woods, Harvey W., Blain.

PHILADELPHIA COUNTY SOCIETY.

(Organized 1849. Incorporated October 2, 1877.)

(Philadelphia is the post office when street address only is given.)

President...C. A. E. Codman, 4116 Spruce St.
V. Pres.....M. H. Fussell, 421 Lyceum Ave., Roxborough.
Associate Vice-Presidents:—
North Branch: Jesse O. Arnold, 2503 N. Eighteenth St.
South Branch: John D. McLean, 1538 S. Broad St.
Kensington Branch: Joseph A. Moore, 1216 N. Sixth St.
West Philadelphia Branch: G. Mason Astley, 5211 Girard Ave.
Northeast Branch: Samuel Bolton, 4701 Leiper St.
Northwest Branch: George A. Cameron, Greene St. and School Lane, Germantown.
Southeast Branch: Simon Wendkos, 1527 N. Franklin St.
Secretary...William S. Wray, 2007 Chestnut St.
Asst. Sec. and Rept....Arthur H. Hopkins, 1804 Pine St.
Treasurer...E. A. Shumway, 2007 Chestnut St.
Censors.....Jay F. Schamberg, Secretary, 1922 Spruce St., 1 year.
Judson Daland, 317 S. Eighteenth St., 2 years.
Lewis H. Adler, Jr., 1610 Arch St., 3 years.
William E. Hughes, 3945 Chestnut St., 4 years.
William M. Welch, 1411 Jefferson St., 5 years.
Directors...Henry Leffmann, 1839 N. Seventeenth St., 1916.
John F. Roderer, 2426 N. Sixth St., 1916.
John J. Robrecht, 3940 Chestnut St., 1916.
Wm. S. Newcomet, 3501 Baring St., 1915.
Wm. D. Robinson, 2012 Mt. Vernon St., 1915.
J. Torrance Rugh, 1616 Spruce St., 1915.
Herman B. Allyn, 501 S. Forty-second St., 1914.
G. Morton Illman, 3235 N.Fifteenth St., 1914.
J.D. McLean, 1538 S.Broad St.,1914.
Com. on Increase of Membership. Samuel Wolfe, Chairman, 1701 Diamond St.
Mary Buchanan, 2106 Chestnut St.
P.B. Cassidy, 817 S.Twenty-first St.
George C. Yeager, Secretary, 1419 East Susquehanna Ave.
Aaron Brav, 917 Spruce St.
Com. on Pub. Policy and Legislation..Wilmer Krusen, Chairman, 127 North Twentieth St.
J. D. McLean, 1538 S. Broad St.
F. Hurst Maier, 2035 Chestnut St.
G. A. Knowles, 4812 Baltimore Ave.
A.W.Hammer, 902 N.Forty-first St.
Com. on Library.....James M. Anders, Chairman, 1605 Walnut St.
Catharine Macfarlane, 5808 Greene St., Germantown.
S. Chandler, 225 S. Twentieth St.
William E. Robertson, 327 S. Eighteenth St.
Rae S. Dorsett, 1729 Arch St.
Com. on Criminal Malpractice:—
Henry W. Cattell, Chairman, 3709 Spruce St.
Samuel M. Wilson, 1517 Arch St.
Richard C. Norris, 500 North Twentieth St.
Com. on Reduction of Infant Mortality:—
Henry D. Jump, Chairman, 4634 Chester Ave.
H. C. Carpenter, 1805 Spruce St.
Alfred Hand, Jr., 1724 Pine St.
Clarence A. Fife, 2033 Locust St.
E. C. Jones, 1531 N. Fifteenth St.
Com. on Hospital Dispensary Abuse:—
Joseph D. Farrar, Chairman, 1944 N. Broad St.
G. M. Illman, 3235 N. Fifteenth St.
S. A. Brumm, 4813 Baltimore Ave.
C. J. Cavanagh, 1518 Pine St.
Frances C. VanGasken, 115 South Twenty-second St.
Com. on Archives:—
Albert M. Eaton, Chairman, 2017 N. Thirteenth St.
C. B. Longenecker, 3416 Baring St.
Wm. S. Higbee, 1703 S. Broad St.
W.T. Hamilton, 932 W.Lehigh Ave.
S. P. Gerhard, 639 N. Sixteenth St.
Com. to Compile the Laws, Rules and Regulations of the Bureau of Health:—
John D. McLean, Chairman, 1538 S. Broad St.
Ellwood R. Kirby, 1202 Spruce St.
Wm. S. Higbee, 1703 S. Broad St.

Stated meetings for business the third Wednesday of January, April, June and October, at 8:15 P.M. Election of officers in January. Scientific meetings the second and fourth Wednesdays of each month, except July and August, and the fourth Wednesday of June and the second Wednesday of September, at 8:30 P.M., all at the College of Physicians, Twenty-second and Ludlow Sts.

NORTH BRANCH.

Chairman..Wm. E. Robertson, 327 S. Seventeenth St.
Clerk......B. F. Devitt, 1503 N. Fifteenth St.

Meets the third Tuesday night at the Club House of the Philadelphia Clinical Association, 1520 N. Fifteenth St.

SOUTH BRANCH.

Chairman..Percy L. Balentine, 1836 S. Seventeenth St.
Clerk......P. B. Cassidy, 817 S.Twenty-first St.

Meets the fourth Friday night at St. Rita's Club Rooms, Broad and Federal Sts.

KENSINGTON BRANCH.

Chairman..E.B. Miller, 2351 E. Cumberland St.
Clerk......V.J. Fenerty,2347 E. Cumberland St.

Meets the first Friday night in the Kensington Building of the Free Library of Philadelphia, northwest corner of Lehigh Avenue and Sixth Street.

WEST PHILADELPHIA BRANCH.

Chairman..J. W. McConnell, 701 N. Fortieth St.
Clerk......H. L. Lutz, 5525 Woodland Ave.

Meets the third Tuesday night in the Philomusian Clubhouse, northwest corner of Sansom and Thirty-ninth Streets.

NORTHEAST BRANCH.

Chairman..Horatio Pilkington, 4238 Paul St., Frankford.
Clerk......F.F.Borzell, 900 E.Westmoreland St.

Meets the third Thursday night in Frankford Building of the Free Library of Philadelphia, Frankford Avenue and Overington Street.

NORTHWEST BRANCH.

Chairman..Howard D. Geisler, 35 High St.,Germantown.
Clerk......Charles C. Watt, Jr., Wayne Ave. and W. Hortter St.

Meets the first Thursday night at the Vernon Park Building of the Free Library of Philadelphia, Germantown Ave. above Chelten Ave.

SOUTHWEST BRANCH.

Chairman..S.A. Loewenberg, 1528 S. Fifth St.
Clerk......Morris Ginsburg, 1511 S. Ninth St.

Meets first and third Friday nights at Library Hall, Fifth St. below Washington Ave.

All Branches meet at 9 P.M. monthly except July and August.

This society publishes a program of the medical meetings of the various societies for the week, from September to July, inclusive, the editor of which is Dr. A. B. Hirsh, 1711 Diamond St.

The society also has a Medical Defense Fund of its own for which purpose fifty cents is laid aside for each member, the membership being based on the number of members in good standing on August 31 of each year. The Honorable Hampton L. Carson is attorney for this medical defense feature.

MEMBERS (1468).

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Abbott, Frank Cook, 406 S. Broad St.
Adams, Charles T., 5701 Girard Ave.
Adams, J. Howe, Paoli (Chester Co.).
Adler, Lewis H., Jr., 1610 Arch St.
Allen, Alfred Reginald, 2013 Spruce St.
Allen, Francis Olcott, Jr., 2216 Walnut St.
Allen, Jesse Hall, 1325 Pine St.
Allen, Luther M., 3100 Wharton St.
Allen, Mary E., Calhoun, Alabama.
Aller, Thomas G., Episcopal Hospital, Front and Lehigh Aves.
Allis, Oscar H., 1604 Spruce St.
Allyn, Herman B., 501 South Forty-second St.
Alrich, William M., Carpenter and Main Sts., Germantown.
Anders, Andrew, 2200 North Twentieth St.
Anders, Howard S., 115 South Twentieth St.
Anders, James M., 1605 Walnut St.
Anders, I. Wesley, 1329 West Somerset St.
Andrus, Walter Haskell, 5913 Greene St., Germantown.
Ankeney, Clinton R., 803 N. Twenty-fourth St.
Annesley, William H., 2601 East Lehigh Ave.
Anspach, Brooke M., 119 South Twentieth St.
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Applegate, John C., 3540 North Broad St.
Appleman, Leighton F., 308 S. Sixteenth St.
Arnett, James H., Stetson Hospital.
Arnold, Jesse O., 2503 North Eighteenth St.
Artelt, Henry, 1521 North Eighth St.
Asher, Joseph M., 1335 North Broad St.
Ashton, W. Easterly, 2011 Walnut St.
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Atkins, George Hulings, 1727 South Broad St.
Atlee, Louis William, 2039 Pine St.
Attix, James C., 2355 N. Thirteenth St.
Auge, Emily G. Whitten, 2734 Wharton St.
Austin, J. Harold, University of Pennsylvania.
Austin, J. Paul, 43 West Walnut Lane, Germantown.
Babbitt, James A., 121 South Eighteenth St.
Babcock, W. Wayne, 2033 Walnut St.
Bachman, Henry S., 2016 North Second St.
Bacon, H. Augustus, 1527 Girard Ave.
Bacon, John, Torresdale, Philadelphia.
Bacon, William D., 409 North Fifty-fourth St.
Baer, Benjamin F., 2115 Chestnut St.
Baer, Benjamin F., Jr., 2040 Chestnut St.
Bailey, Robert Wellesly, 102 East Price St., Germantown.
Bailey, Thomas W., 1636 South Eighteenth St.
Bainbridge, Empson H., 1425 Poplar St.
Baker, A. George, 404 Susquehanna Ave.
Baker, Frank K., 3019 Diamond St.
Baker, George F., 421 Walnut St.
Baldwin, James H., 1426 Pine St.
Baldwin, Kate W., 1117 Spruce St.
Baldy, J. Montgomery, 2219 DeLancey St.
Balentine, Percy L., 1836 S. Seventeenth St.
Ball, Joseph P., 4445 Frankford Ave.
Balliet, Tilgham M., 3709 Powelton Ave.
Banes, S. Thompson, 845 North Broad St.
Banks, William B., 736 North Nineteenth St.
Barcus, Adolph L., 923 North Eighth St.
Bardsley, G. Ashton, 129 W. Susquehanna Ave.
Bare, Horace C., 2104 Green St.
Barnard, Everett P., 119 South Nineteenth St.
Barnes, Charles S., 35 South Nineteenth St.
Bartle, Henry J., 2317 Oxford St.
Barton, Isaac, 27 South Nineteenth St.
Bateman, Sydney E., 662 N. Fifty-second St.
Bates, Hervey L., 7737 Norwood Ave.
Batroff, Warren C., 2456 N. Seventeenth St.
Bauer, Charles, 929 North Seventh St.
Bauer, L. Demme, 715 North Fifth St.
Bauer, Marie L., 1913 Fairmount St.
Baum, Charles, 1828 Wallace St.
Baxter, Hart B., 1422 Christian St.
Bean, J. Robbins, 4506 North Broad St.
Beardsley, Edward J. G., 2030 Chestnut St.
Beardwood, Matthew, Jr., 5[illegible] Jamestown Ave., Roxborough, Philadelphia.
Beates, Henry, Jr., 260 S. Sixteenth St.
Becker, John Brugger, 5211 Chester Ave.
Beckley, Aller G., 2836 Columbia Ave.
Beecroft, Elizabeth McKinley, 30[illegible] West Susquehanna Ave.
Behrend, Moses, 1427 North Broad St.
Bell, Edward H., 739 Spruce St.
Bemis, Royal W., 2512 North [illegible] St.
Bender, Engelbert C., 330 S. Fifty-second St.
Bennett, William H., 1837 Chestnut St.
Berens, Bernard, 2041 Chestnut St.

Berens, Conrad, 1707 Arch St.
Berens, Conrad, Jr., Penna. Hospital, Eighth and Spruce Sts.
Bergeron, P. Narbert, 1832 Girard Ave.
Bergey, David H., 206 South Fifty-third St.
Berlet, James F., 830 North Fifth St.
Bernardy, Henry L., 321 South Eleventh St.
Bernd, Leo H., 2106 Chestnut St.
Bernheim, Albert, 1225 Spruce St.
Bethel, John Percy, 1825 Fairmount Ave.
Beyea, Henry D., 1734 Spruce St.
Biedert, Charles C., 116 S. Eighteenth St.
Bird, Gustavus C., 1415 Erie Ave.
Birney, Herman H., 4016 Chestnut St.
Bishop, Aaron Lafayette, 5324 Vine St.
Blackburn, Albert E., 3813 Powelton Ave.
Blakeslee, Walter H., 3328 N. Seventeenth St.
Bland, Pascal Brooke, 1729 Pine St.
Bliss, Arthur A., 117 South Twentieth St.
Bloom, Homer C., 1433 Walnut St.
Bloomfield, Maximillian D., 2008 N. Park Ave.
Blumberg, Nathan, 319 Pine St.
Bobb, Wallace G., 2444 North Sixth St.
Bochroch, Max H., 1539 Pine St.
Boehringer, Herman W., 1811 South Twenty-second St.
Bogart, Arthur E., 5046 Market St.
Boger, John A., 2213 North Broad St.
Boice, J. Morton, 4020 Spruce St.
Bolin, Jesse Albert, 3517 Longshore St.
Bolling, Robert H., Chestnut Hill, Philadelphia.
Bolton, Samuel, 4701 Leiper St.
Bonaffon, Samuel A., 3439 Walnut St.
Bonney, Charles W., 1117 Spruce St.
Boon, W. Thomas, 215 Green Lane, Manayunk.
Boothe, J. Henry, 839 North Sixteenth St.
Booye, Mark T., 810 Federal St.
Borger, Otto P., 1308 South Broad St.
Borrowes, George H., 160 North Twentieth St.
Borzell, Francis F., 900 East Westmoreland St.
Boston, L. Napoleon, 1819 Chestnut St.
Boulton, Eleanore F., P.O. Box 638.
Bowen, Clement Remington, 752 S. Sixtieth St.
Bowen, David R., 3 East Forty-fourth St.
Bower, Collier L., 224 South Broad St.
Bower, Franklin S., 3318 Germantown Ave.
Bowers, Wilson, 1803 S. Sixteenth St.
Bowman, Frank S., 1711 South Thirteenth St.
Bowyer, Maude A., 1503 Locust St.
Boyd, George M., 1909 Spruce St.
Boyer, D. Pellman, 4747 Richmond St.
Boyer, Henry Percival, 4602 Baltimore Ave.
Boyer, Merle S., 2827 Girard Ave.
Bradford, T. Hewson, 1802 DeLancey St.
Bradley, Clarence Davis, 4905 North Twelfth St.
Bradley, D. Cameron, 607 North Sixteenth St.
Bradley, William N., 1638 South Broad St.
Brady, Franklin, 1815 Frankford Ave.
Bram, Israel, 1714 North Seventh St.
Brav, Aaron, 917 Spruce St.
Brav, Herman A., 1933 North Broad St.
Bready, Conrad R., 1921 North Seventh St.
Bready, William R., Jr., 1857 N. Eleventh St.
Brecker, N. Francis, 2347 St. Albans St.
Bremer, Paul F., 839 North Broad St.
Brick, J. Coles, 1210 Spruce St.
Bricker, Charles E., 2739 Girard Ave.
Bricker, Howard E., 5701 Baltimore Ave.
Bridgett, Charles R., 3332 Chestnut St.
Brinkmann, Leon, 130 North Eighteenth St.
Brinton, Ward, 1423 Spruce St.
Brister, Samuel, 1946 N. Thirty-second St.
Brittingham, James D., 4010 Chestnut St.
Bromley, John L., 1532 North Fifteenth St.
Brooks, Macy, 1314 Spruce St.
Brophy, John A., 1819 Chestnut St.
Brown, Claude P., The Parkview, Thirty-third and Diamond Sts.
Brown, Elmer E., 1415 Tasker St.
Brown, H. MacVeagh, 4608 Baltimore Ave.
Brown Isaac Welch, 308 South Fifty-first St.
Brown, Samuel H., 1901 Mt. Vernon St.
Brown, Walter F., 2026 North Fifteenth St.
Brubaker, Albert P., 105 N. Thirty-fourth St.
Brumbaugh, Simon S., 2923 N. Twelfth St.
Brumm, Seth Arthur, 4813 Baltimore Ave.
Bruner, Henry G., 542 North Eleventh St.
Brunet, John E., 2238 North Broad St.
Bryan, Henry N., 144 North Twentieth St.
Bryan, J. Roberts, 4200 Chestnut St.
Buchanan, Mary, 2106 Chestnut St.
Buchanan, Thomas J., 928 Fairmount Ave.
Buckby, Wilson, 1744 Diamond St.
Buckley, Albert C., Friends Asylum for Insane, Frankford, Philadelphia.
Bundy, Elizabeth R., 1930 Chestnut St.
Bunting, Josiah T., 6410 Germantown Ave.
Burk, Charles M., 218 W. Logan Square.
Burke, Joseph J., 5117 Baltimore Ave.
Burns, Joseph P., 5231 Chester Ave.
Burns, Louis J. I., 1906 Chestnut St.
Burns, Stillwell C., 1326 Spring Garden St.
Burr, Charles W., 1918 Spruce St.
Burwell, T. Spotuas, 724 S. Seventeenth St.
Butler, Margaret F., 2127 Green St.
Butler, Ralph, 1824 Chestnut St.
Butt, Miriam M., 1701 Chestnut St.
Butt, William R., 1701 Chestnut St.
Butte, Harley J., 2047 Christian St.
Byers, Edgar H., 2036 North Broad St.
Byrne, Thomas J., 1507 South Broad St.
Cadwallader, Williams B., 1710 Locust St.
Cahall, William C., 154 West Chelten Ave., Germantown.
Cairns, Andrew A., 1539 Columbia Ave.
Callahan, Andrew. 1829 South Broad St.
Cameron, George A., Greene St. and School Lane, Germantown.
Cameron, John L., 1500 Girard Ave.
Carey, Harry K., Foster Bldg., Bedford, Ind.
Carmany, Henry S., 366 Green Lane, Roxborough.
Carnett, John Berton, 123 South Twentieth St.
Carpenter, Herbert B., 1805 Spruce St.
Carpenter, Howard C., 1805 Spruce St.
Carpenter, John T., 2040 Chestnut St.
Carr, Charles D., 350 S. Sixteenth St.
Carrier, Frederic, 406 South Sixteenth St.
Carroll, William, 617 South Sixteenth St.
Carruthers, Georgiana H., 3064 Frankford Ave.
Carter, Andrew D., 753 North Fortieth St.
Case, Eugene Allen, 5907 Lansdowne Ave.
Cassidy, Paul B., 817 South Twenty-first St.
Cattell, Henry W., 3709 Spruce St.
Cavanagh, Charles J., 1518 Pine St.
Chance, Burton, 235 South Thirteenth St.
Chandlee, Wm. Herbert, 4930 Frankford Ave.
Chandler, Swithin, 225 South Twentieth St.
Chapin, Laura Stitzer, 1724 Diamond St.
Charlton, William U., 1718 Snyder Ave.

Chase, Theodore L., 2009 Chestnut St.
Cherry, Solomon L., 1605 North Sixth St.
Chestnut, James C., 1817 Frankford Ave.
Child, Florence C., McKean Ave., Germantown.
Chirinos, Frederick C., 2656 E. Allegheny Ave.
Christian, Hilary M., The Burlington, 1321 Spruce St.
Christine, Gordon M., 2043 North Twelfth St.
Ciccone, G. Vico, 1521 South Broad St.
Clark, Amy Brush, 3343 North Twentieth St.
Clark, Benjamin F.R., Palmerton (Carbon Co.).
Clark, Elizabeth F. C., 1709 Pine St.
Clark, John G., 2017 Walnut St.
Clark, William L., 1809 Chestnut St.
Clarke, George G., 2104 North Broad St.
Clawson, James E., 1707 West Norris St.
Cleveland, F. Mortimer, 4027 Chestnut St.
Clouting, E. Sherman, 5541 Greene St., Germantown.
Coates, George M., 2032 Chestnut St.
Codman, Charles A. E., 4116 Spruce St.
Cogill, Lida Stewart, 869 N. Forty-first St.
Cohen, Abraham J., 723 Pine St.
Cohen, Joseph Samuel, 1734 South Seventh St.
Cohen, J. Solis, 1824 Chestnut St.
Cohen, Myer Solis, 4102 Girard Ave.
Cohen, S. Solis, 1525 Walnut St.
Cole, Albert N., 1505 Tioga St.
Coles, Stricker, 2103 Walnut St.
Coley, Thomas Luther, 526 Land Title Bldg.
Colgan, James F. E., 1022 North Fifth St.
Collins, Foster K., 2501 N. Thirty-second St.
Conard, Thomas E., 1855 N. Seventeenth St.
Conner, Annie L., 7056 Germantown Ave.
Cooke, Dudley T., 1536 South Broad St.
Cooke, Edwin S., 1633 Christian St.
Cooper, J. Cardeen, 1707 Chestnut St.
Cooper, Linfred L., 5228 Chestnut St.
Cooperman, Morris B., 308 Catharine St.
Cope, Thomas A., 6504 Germantown Ave.
Coplin, William M. L., 606 S. Forty-eighth St.
Copp, Owen, 4401 Market St.
Cornell, Walter S., 2018 Chestnut St.
Corson-White, Ellen P., 216 South Fifteenth St.
Craig, Alexander R., 535 Dearborn Ave., Chicago, Ill.
Craig, Clark R., 331 South Twelfth St.
Craig, Frank A., 732 Pine St.
Craig, Nellie Cameron, 215 N. Fifty-second St.
Craig, William F., 1603 West Lehigh Ave.
Cramp, Joseph A., 1902 Chestnut St.
Crampton, George S., 1700 Walnut St.
Crandall, Thomas V., 1824 Chestnut St.
Crawford, James Rea, 5602 Lansdowne Ave.
Creighton, William J., 1905 Chestnut St.
Crosby, Wm. Smith, 328 S. Seventeenth St.
Croskey, John W., 3325 Powelton Ave.
Crueger, Edward A., 1123 N. Forty-first St.
Cruice, John M., 1815 Spruce St.
Cryer, Matthew H., 1623 Walnut St.
Curran, John D., 1418 South Broad St.
Currie, Charles A., West Walnut Lane, Germantown.
Currie, Thomas R., 113 East Cumberland St.
Curtin, Roland G., 22 South Eighteenth St.
Custer, David D., 137 Green Lane, Manayunk.
Custer, Ella B., 137 Green Lane, Manayunk.
DaCosta, J. Chalmers, 1831 Chestnut St.
DaCosta, John C., Jr., N.W. Cor. Spruce and Fifteenth Sts.
Daland, Judson, 317 South Eighteenth St.
Daniels, Clarence D., 2267 N. Eighteenth St.
d'Apery, Tello J., 767 North Fortieth St.
Davidson, Arthur J., 200 South Twelfth St.
Davis, Alvah M., 25 High St., Germantown.
Davis, Edward P., 250 South Twenty-first St.
Davis, Gwilym G., 1814 Spruce St.
Davis, J. Leslie, 1700 Walnut St.
Davis, Richard S., 302 School Lane, Germantown.
Davis, T. Carroll, 2408 W. Allegheny Ave.
Davisson, Alexander H., Ardmore (Montg. Co.).
Deal, John Colton, 5325 Haverford Ave.
Deaver, Henry C., 1534 North Fifteenth St.
Deaver, John B., 1634 Walnut St.
Deaver, Richard W., 6105 Germantown Ave.
Deehan, Sylvester J., 843 N. Twenty-fourth St.
DeFord, Moses, 2116 North Nineteenth St.
Deichler, L. Waller, 750 North Forty-first St.
Dempsey, William Thomas, 2606 N. Fifth St.
Dengler, Robert H., 2324 North Broad St.
Denny, George H. S., S. E. Cor. Thirty-fifth and Spring Garden Sts.
Dercum, Clara T., 810 North Broad St.
Dercum, Francis X., 1719 Walnut St.
Despard, Duncan L., 1806 Pine St.
Dever, Francis J., 317 South Eighteenth St.
Devereux, Robert T., 2103 Hunting Park Ave.
Devitt, Benjamin F., 1503 North Fifteenth St.
Devitt, William, 130 Green Lane, Manayunk.
Dewey, J. Hiland, 1436 Diamond St.
DeYoung, A. Henriques, 1949 N. Broad St.
Dick, John W., 1945 Christian St.
Diez, M. Louise, 5733 Spruce St.
Dillard, Henry K., Jr., 234 S. Twentieth St.
Dintenfass, Henry, 415 Pine St.
Diseroad, Benjamin F., 911 West Lehigh Ave.
Dixon, Samuel G., Bryn Mawr (Montg. Co.).
Dolson, Frank E., 413-414 Weightman Bldg., 1524 Chestnut St.
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Donnelly, Dorothy, 213 Green Lane, Roxborough.
Dorland, William A. N., 1358 Fulton St., Chicago, Ill.
Dorr, Henry I., 1521 Spruce St.
Dorrance, George M., 2025 Walnut St.
Dorsett, Rae S., 1729 Arch St.
Dougherty, John G., 3625 Walnut St.
Dougherty, Sherborne W., 256 S. Sixteenth St.
Douglas, Malcolm, 1814 Tioga St.
Douredoure, Eveleen A., 4107 Baltimore Ave.
Downs, Ardrey W., 4204 Girard Ave.
Downs, Norton, Fordhooke Farm, Three Tuns (Montgomery Co.).
Downs, Robert N., Jr., 6008 Greene St., Germantown.
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Doyle, George F., 326 S. Seventeenth St.
Drake, Elwood L., 2762 Pratt St.
Dray, Arthur R., American University, Beyrout, Syria.
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Druce, Thomas W., 1316 South Thirty-fifth St.
Drummond, Winslow, 1824 N. Thirteenth St.
Dubbs, John H., 2722 North Twelfth St.
Dubbs, Robert L., 1622 South Eighteenth St
Duer, Edward L., Odessa, Del.
Dugan, William J., 2035 Chestnut St.
Duhring, Louis A., 3322 Walnut St.

Dukes, John L., 344 N. Fifty-second St.
Dulles, Charles W., 4101 Walnut St.
Duncan, Harry A., 2721 West Lehigh Ave.
Dundore, Claude A., 2012 Master St.
Dunn, John T., 1625 Ritner St.
Dwight, Mark B., 4025 Walnut St.
Earley, Thomas B., 2230 Tioga St.
Earnshaw, Henry C., Bryn Mawr (Montg. Co.).
Eaton, Albert M., 2017 North Thirteenth St.
Eckfeldt, John W., 6312 Vine St.
Eckman, Philip N., 624 N. Twenty-second St.
Edwards, Preston M., 3957 Warren St.
Eft, Frederick, 1340 North Thirteenth St.
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Eichman, Edward A., 440 Lyceum Ave.
Elder, Frank H., 6028 Overbrook Ave.
Eldredge, Clarence S., 2258 N. Seventeenth St.
Eliason, Eldredge L., 320 South Sixteenth St.
Ellinger, Theophilus J., 737 N. Forty-first St.
Ellis, Aller G., N.W.Cor. Tenth and Walnut Sts.
Ellis, Samuel, 6203 Elmwood Ave.
Ellis, William T., 1926 North Nineteenth St.
Elmer, Malcomb K., Hotel Walton, Broad and Locust Sts.
Elmer, Walter G., 1801 Pine St.
Ely, Thomas Cox, 2041 Green St.
Embery, Frank, 4662 Frankford Ave.
Emich, John P., 3245 North Front St.
Enoch, George F., 7926 Frankford Ave.
Erck, Theo. A., 251 South Thirteenth St.
Erny, Erwin H., 5429 Lansdowne Ave.
Eshner, Augustus A., 1019 Spruce St.
Evans, Thomas H., 350 S.Main St.,Freeport,N.Y.
Evans, William, 4007 Chestnut St.
Everitt, Ella B., 1807 Spruce St.
Eves, Curtis Clyde, 302 North Nineteenth St.
Falls, Samuel C., 6139 Haverford Ave.
Faries, Randolph, 2007 Walnut St.
Farley, Joseph, 1919 South Broad St.
Farr, Clifford B., 117 South Twenty-second St.
Farr, William W., Springfield Ave. and Lincoln Drive, Chestnut Hill.
Farrar, Joseph D., 1944 North Broad St.
Faught, Francis Ashley, 5016 Spruce St.
Feldstein, Sidney L., 2145 N. Fifteenth St.
Felt, Carle L., 2007 Chestnut St.
Fenerty, Vincent J., 2347 East Cumberland St.
Fenton, Thomas H., 1319 Spruce St.
Ferguson, Albert D., 50 East Johnson St., Germantown.
Ferguson, George M., 706 S. Forty-ninth St.
Ferguson, Wm. N., 125 W. Susquehanna Ave.
Ferris, Francis S., 501 South Forty-fifth St.
Fetterman, Wilfred B., 7047 Germantown Ave.
Fetterolf, George, 330 South Sixteenth St.
Fiet, Harvey J., 2152 North Fourth St.
Fife, Charles A., 2033 Locust St.
Finck, Edward B., 1120 Girard St.
Fischelis, Philip, 828 North Fifth St.
Fisher, Frank, 1911 Arch St.
Fisher, Henry, 2345 East Dauphin St.
Fisher, Henry M., 1027 Pine St.
Fisher, Herbert P., 5324 Wayne Ave., Germantown.
Fisher, John M., 222 South Fifteenth St.
Fisher, John V., 6027 Larchwood Ave.
Fisher, Lewis, 1322 South Fifth St.
Fisher, Mary, 1911 Arch St.
Fitzpatrick, Ignatius L.J., 1807 S.Eighteenth St.
Fleming, Thomas J., 2225 Green St.
Flynn, J. Cajetan, 1225 North Sixth St.
Foehrenbach, J. E., 3228 North Fifteenth St.
Foltz, J. Clinton, Summit St., Chestnut Hill.
Ford, Walter A., N. E. Cor. Fifteenth and Locust Sts.
Formad, Marie K., 927 North Broad St.
Forst, John R., 166 W.Coulter St., Germantown.
Foulkrod, Collin, 4005 Chestnut St.
Fox, Herbert, 3902 Locust St.
Fox, L. Webster, 303 South Seventeenth St.
Fox, William W., 1239 West Lehigh Ave.
Fraley, Frederick, 1701 DeLancey St.
Francine, Albert P., 1932 Spruce St.
Frankel, Jacob J., 1314 South Fifth St.
Franklin, Clarence P., 121 South Sixteenth St.
Franklin, Marcus, 1518 North Broad St.
Franklin, M. Burnett, 1512 Diamond St.
Franklin, Melvin M., 1633 Spruce St.
Fraser, Hugh D., 6618 Woodland Ave.
Frazier, Charles H., 1724 Spruce St.
Freeman, Frank Ernest, 1245 North Sixtieth St.
Freeman, Walter J., 1832 Spruce St.
Freeman, Walter S., 909 W. Susquehanna Ave.
Frescoln, Leonard D., 3304 Baring St.
Fretz, Howard G., 1207 Erie Ave.
Freund, Henry H., 1509 South Broad St.
Fridy, Cyrus W., Fifty-eighth St. and Thomas Ave.
Friedenberg, Samuel, 539 North Fifth St.
Fritz, W. Wallace, 1600 Summer St.
Fuller, Dwight Bailey, 208 N. Thirty-fourth St.
Fulton, T. Chalmers, Diamond and Sixth Sts.
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Funk, Elmer H., Jefferson Hospital, Tenth and Sansom Sts.
Furbush, Charles Lincoln, 1501 Spruce St.
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Galbraith, James L., 2239 North Nineteenth St.
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Gans, S. Leon, Hotel Lorraine, Broad St. and Fairmount Ave.
Gardner, Anna J., 417 East Somerset St.
Gaskill, Henry K., 2030 Chestnut St.
Gaston, Ida E., 2833 Diamond St.
Geisler, Howard D., 35 High St., Germantown.
Gerhard, Arthur H., Fifty-seventh St. and Overbrook Ave.
Gerhard, Samuel P., 639 North Sixteenth St.
Gerlach, Richard F., 1416 North Seventeenth St.
Getty, Mary, 1831 Chestnut St.
Gibb, Joseph S., 1907 Chestnut St.
Gibbon, John H., 1608 Spruce St.
Gilbride, John J., 2412 North Sixth St.
Gildersleeve, Nathaniel, 4732 Hazel Ave.
Gildersleve, George Henry, 525 N. Sixth St.
Gile, Ben Clark, 1728 Chestnut St.
Gill, A. Bruce, 348 South Sixteenth St.
Gilliland, Samuel H., Marietta (Lancaster Co.).
Gilpin, Sherman F., 432 N. Fifty-second St.
Ginsburg, Morris, 1511 South Ninth St.
Ginsburg, Nathaniel, 1704 Pine St.
Girvin, John H., 2120 Walnut St.

Githens, Thomas Stotesbury, 1327 Pine St.
Githens, Wm. H. H., 1327 Pine St.
Gittings, J. Claxton, 3942 Chestnut St.
Given, Ellis E. W., 2714 Columbia Ave.
Gleason, E. Baldwin, 2033 Chestnut St.
Goddard, Herbert M., 1338 Spruce St.
Godfrey, Henry G., 2054 East Cumberland St.
Goepp, R. Max, 1716 Locust St.
Goldberg, Harold G., 1925 Chestnut St.
Golden, Henry, 710 Pine St.
Goldsmith, S. Bryan, 247 South Thirteenth St.
Good, Albert P., 622 North Forty-eighth St.
Good, William H., 5309 North Second St.
Goodell, W. Constantine, 300 S. Thirteenth St.
Goodman, Edward H., 248 S. Twenty-first St.
Goodwin, Warren C., 3734 Powelton Ave.
Gordon, Alfred, 1430 Pine St.
Gordon, Benjamin L., 1316 South Fifth St.
Goss, Charles, 1316 W. Allegheny Ave.
Graham, Edwin E., 1713 Spruce St.
Graham, John, 326 South Fifteenth St.
Grahn, S. Norman, 2011 N. Twenty-second St.
Gray, Clarence H., 1803 Chestnut St.
Grayson, Charles P., 1435 Spruce St.
Green, Mary J., 707 North Fortieth St.
Greene, William H., N. W. Corner Sixteenth and Arch Sts.
Greenewalt, Frank L., 1424 Master St.
Gregory, Henry Ward, 6033 Chestnut St.
Griffith, J. P. Crozer, 1810 Spruce St.
Griggs, William C., 558 N. Fifty-eighth St.
Grim, Ella Williams, 46 North Fortieth St.
Grime, Robert T., 618 South Seventeenth St.
Griscom, J. Milton, 1925 Chestnut St.
Griscom, Mary Wade, 1831 Chestnut St.
Groff, Charles A., 222 North Thirteenth St.
Groff, Henry C., S. E. Cor. Broad and Venango Sts.
Guilfoyle, William F., 4014 Chestnut St.
Gummey, Frank B., 5418 Greene St., Germantown.
Guthrie, D. Clinton, 722 N. Fortieth St.
Guthrie, Kenneth Sylvan, 1501 N. Marshall St.
Haig, Charles R., Jr., 1400 N. Nineteenth St.
Hale, George, 4428 Paul St., Frankford.
Hall, Annie Bartram, 1415 N. Seventeenth St.
Hall, William D. W., 801 S. Forty-ninth St.
Hallowell, Charles E., 1822 Tioga St.
Hamill, Samuel McC., 1822 Spruce St.
Hamilton, William A., 602 East Girard Ave.
Hamilton, William T., 932 West Lehigh Ave.
Hammer, A. Wiese, 902 North Forty-first St.
Hammond, Frank C., 1729 Arch St.
Hammond, Levi Jay, 1222 Spruce St.
Hammond, Wilbur C., 655 North Twelfth St.
Hand, Alfred, Jr., 1724 Pine St.
Hanna, George C., 4840 Frankford Ave.
Hanna, Hugh, 2843 Diamond St.
Hansell, Howard F., 1528 Walnut St.
Harbaugh, Charles H., 1143 South Broad St.
Harbridge, Delamere Forest, 258 S.Fifteenth St.
Hare, Hobart A., 1801 Spruce St.
Hargett, Walter S., 5715 Girard Ave.
Harris, Frank D., 2315 North Seventeenth St.
Harrison, Rose, 1836 South Broad St.
Harte, Richard H., 1508 Spruce St.
Hartley, Harriet L., 2101 W. Susquehanna Ave.
Harton, Julia P., 1721 West Girard Ave.
Hartwell, John H., 2540 North Eleventh St.
Hartzell, Milton B., 3644 Chestnut St.
Hassell, Howard W., 2107 Fairmount Ave.
Hatfield-Richardson, Bertha S., 2021 North Thirteenth St.
Hatfield, Charles J., 2008 Walnut St.
Hayes, John Agnew, 1822 Master St.
Head, Joseph, 1500 Locust St.
Hearn, Marion, 700 N. Fortieth St.
Hearn, William P., 2119 Spruce St.
Hearn, W. Joseph, 2119 Spruce St.
Hearne, Charles S., 1632 Chestnut St.
Hearst, John A., 6043 Germantown Ave.
Heck, John A., 1232 North Fifth St.
Heed, Charles R., 1700 Walnut St.
Heimer, Louis B., 2404 N. Thirty-second St.
Heineberg, Alfred, 1642 Pine St.
Heisler, John C., 3829 Walnut St.
Heller, Edwin A., 1911 N. Broad St.
Henry, Frederick P., 114 S. Eighteenth St.
Henry, Melvin K., 5011 Tacony St.
Henry, J. Norman, 1906 Spruce St.
Herbert, J. Frederick, S. E. Cor. Fifteenth and Walnut Sts.
Herchelroth, J. Grant, 4837 Baltimore Ave.
Herman, Maxwell, Oraibi, Ariz.
Hermance, William Oakley, 2040 Pine St.
Herrman, Max F., 3703 Old York Road.
Hewish, Edgar M., 2131 Columbia Ave.
Hewson, Addinell, 2120 Spruce St.
Hibshman, Harry Z., 4006 N. Fifth St.
Higbee, William S., 1703 South Broad St.
Higgate, Wilfred O., 822 North Forty-first St.
Higgins, Frank J., 2229 North Broad St.
Higgins, James C., 225 N. Twentieth St.
Hildrup, Josephine W., Vienna, Austria.
Hilferty, Edward F., 2225 N. Twenty-first St.
Hill, G. Alvin, 1524 Chestnut St.
Hill, Howard Kennedy, 339 S. Eighteenth St.
Hinchcliff, J. Henry, 2534 North Sixth St.
Hinkle, William M., 1323 N. Thirteenth St.
Hinsdale, Guy, Hot Springs, Virginia.
Hirsch, Charles S., 908 Pine St.
Hirschler, Rose, 126 South Seventeenth St.
Hirsh, A. Bern., 1711 Diamond St.
Hirst, Barton C., 1821 Spruce St.
Hirst, John Cooke, 1823 Pine St.
Hitschler, William A., 1212 Spruce St.
Hoban, Charles J., 1609 South Broad St.
Hobensack, J. Rex, 1706 Columbia Ave.
Hodge, Edward B., 346 S. Sixteenth St.
Hofkin, Adolph F., 922 North Fifth St.
Holland, James W., 2006 Chestnut St.
Hollingshead, Irving W., 123 S. Eighteenth St.
Hollopeter, William C., 1411 Spruce St.
Holloway, Thomas Beaver, 1819 Chestnut St.
Holmes, E. Burwell, 2030 Chestnut St.
Holmes, John W., 6201 Lansdowne Ave.
Holt, Edward Z., 145 Sumac St.
Hooker, Richard S., 3040 Frankford Ave.
Hopkins, Arthur H., 1804 Pine St.
Hopkinson, Oliver, 1424 Spruce St.
Horgan, Edward, 1833 Chestnut St.
Horne, Joseph A., Oak Lane.
Horne, S. Hamill, 324 South Sixteenth St.
Hornstine, Nathan H., 530 Spruce St.
Houghton, Chas. W., Wynnewood (Montg. Co.).
Hoyt, Daniel M., 3604 Chestnut St.
Hudgins, J. Paul, 1921 Dickinson St
Hudson, Jessie B., 2137 College Ave.
Hudson, Harry, 1602 Erie Ave.
Hughes, Donnel, 4003 Chestnut St.

Hughes, William E., 3945 Chestnut St.
Hulshizer, Greene R., 1517 N. Fifteenth St.
Hume, John Elias, 900 South Forty-ninth St.
Hungerbuehler, John C., 1530 N. Franklin St.
Hunsicker, Hanna M., Olney, Philadelphia.
Hunt, Charles Jack, State Capitol, Harrisburg (Dauphin Co.).
Hunter, John W., Pepper Laboratory, Thirty-sixth and Spruce Sts.
Hunter, Robert John, 342 N. Sixty-third St.
Hurlock, Frank I., 2831 Diamond St.
Husik, David N., 1101 North Forty-first St.
Hustead, Frank Humbert, 5140 N. Carlisle St.
Hutchinson, James P., 133 S. Twenty-second St.
Hutt, William H., 1908 Fairmount Ave.
Huttenlock, Robert E., 1122 East Columbia Ave.
Hutton, Frederick C., 728 East Allegheny Ave.
Illman, G. Morton, 3235 North Fifteenth St.
Ingham, Samuel D., 2826 Oxford St.
Ingle, Henry B., 2049 Wallace St.
Ingraham, S. Cooke, 125 Sumac St.
Irwin, James A., 2019 South Broad St.
Irwin, William, 634 Snyder Ave.
Ivy, Robert Henry, 1623 Walnut St.
Jacob, Louis H., 135 West Susquehanna Ave.
Jacob, Moses, 1312 South Fifth St.
Jacobs, Francis B., 2032 Chestnut St.
Jameson, Howard Leon, 2133 S. Sixteenth St.
Jarvis, George O., 310 South Tenth St.
Johnson, Elmer E., 2455 N. Thirty-third St.
Johnson, George E., 5441 Chester Ave.
Johnson, Lucius W., % Navy Dept.,Washington, D. C.
Johnson, Russell H., 8 W. Summit St., Chestnut Hill, Philadelphia.
Johnson, William N., 6460 Germantown Ave.
Johnson, William T., 4729 Baltimore Ave.
Jonas, Leon, 2253 N. Seventeenth St.
Jones, A. Arthur, 1812 Jefferson St.
Jones, Charles J., 1507 Locust St.
Jones, Clifford B., 5035 Wayne Ave.
Jones, Eleanor C., 1531 North Fifteenth St.
Jones, Isaac Hampshur, 4501 Spruce St.
Jones, John F. X., 1607 North Sixteenth St.
Jones, Thomas E., 145 West Susquehanna Ave.
Jopson, John H., 1824 Pine St.
Judson, Charles F., 1005 Spruce St.
Jump, Henry D., 4634 Chester Ave.
Jurist, Louis, 916 North Broad St.
Kahn, Bernard L., 1433 South Fourth St.
Kalteyer, Frederick J., 1533 Pine St.
Kamerly, E. Forest, 1130 Spruce St.
Kapp, David, 1333 North Seventh St.
Karpeles, Maurice J., 146 West Chelten Ave., Germantown.
Katar, Felix M., 313 North Twenty-second St.
Katzenstein, George P., 1704 N. Eighteenth St.
Kaufman, A. Spencer, 2450 W. Cumberland St.
Kaufman, Isadore, 1115 Spruce St.
Kearns, William.
Keating, F. Raymond, 2100 S. Seventeenth St.
Keech, Harry B., 539 E. Allegheny Ave.
Keeler, J. Clarence, 4059 Spruce St.
Keely, Henry Edgar, 1721 Mt. Vernon St.
Keely, Robert N., Browns Mills In-the-Pines, N. J.
Keen, William W., 1729 Chestnut St.
Keene, Floyd E., 116 South Nineteenth St.
Keiser, Elmer E., 6933 Tulip St., Tacony.
Kell, Ralph C., Embreeville (Chester Co.).
Keller, Albert P., 136 Race St.
Keller, Augustus H., 2551 E. Clearfield St.
Kellner, Henry C. F., 1337 E. Montgomery Ave.
Kelly, Francis J., 407 South Forty-second St.
Kelly, James A., 1621 N. Seventeenth St.
Kelly, Joseph V., 138 Rector St., Manayunk.
Kelly, Thomas C., 105 School House Lane, Germantown.
Kelsey, Ernest W., 1217 Spruce St.
Kemp, John H., 5451 Christian St.
Kempton, Augustus F., 2118 Pine St.
Kennedy, Daniel J., 1253 S. Twenty-first St.
Kennedy, James W., 241 North Eighteenth St.
Kercher, Delno E., 1534 Pine St.
Ketcham, Stephen Rush, 1636 Green St.
Kerns, Samuel P., 1432 Diamond St.
Kevin, Robert O., 1129 Spruce St.
Kiefer, Walter E., 1433 Walnut St.
Kilduffe, Robert, 2423 South Twentieth St.
Kimmelman, Simon, 1330 South Fourth St.
Kindbom, Hanna, 1507 Poplar St.
Kinney, Willard H., 1941 North Twelfth St.
Kirby, Ellwood R., 1202 Spruce St.
Kirkbride, M. Frank, 2212 Green St.
Kirkpatrick, Andrew B., 1742 N. Fifteenth St.
Kirschbaum, Helen, 707 Spruce St.
Kitchen, Joseph S., Highland Park, Upper Darby (Delaware Co.).
Kitchen, Philip G., 449 Locust Ave., Germantown.
Klaer, Fred H., 334 S. Sixteenth St.
Klapp, Wilbur P., 1716 Spruce St.
Klein, Alexander, 321 South Eleventh St.
Klemm, Adam, 1204 West Lehigh Ave.
Klopp, Edward Jonathan, 1223 Spruce St.
Klopp, Eli L., Oak Lane, Philadelphia.
Klopp, Peter P., 618 West Lehigh Ave.
Knipe, Jay C., 2035 Chestnut St.
Knipe, Norman L., 701 South Fifty-second St.
Knorr, John K., Jr., 2235 North Sixteenth St.
Knowles, Frank C., 332 South Seventeenth St.
Knowles, George A., 4812 Baltimore Ave.
Kobler, Henry B., 658 North Sixty-third St.
Koder, Charles A., 2458 North Sixteenth St.
Koenig, Augustus, 1324 Pine St.
Kohn, Bernard, 1325 North Thirteenth St.
Kollock, Katharine, 1926 Spring Garden St.
Kolmer, John Albert, Luzerne and Second Sts.
Krall, John T., 1421 Chestnut St.
Krauss, Frederick, 1701 Chestnut St.
Kremer, Walter H., 6122 Germantown Ave.
Krumbhaar, Edward B., 1836 Pine St.
Krusen, Wilmer, 127 North Twentieth St.
Kurtz, Arthur D., 2520 N. Twenty-second St.
Kyle, D. Braden, 1517 Walnut St.
Kyle, E. Bryan, 1212 South Forty-fifth St.
Lacy, Henry A., 743 North Seventeenth St.
Laird, John L., 247 South Seventeenth St.
Laird, J. Packard, Devon (Chester Co.).
Lammer, Francis J., 2266 N. Nineteenth St.
Lamparter, Eugene, Green Lane (Montg. Co.).
Lampen, Louis Peale, 618 North Fortieth St.
Landis, Henry R. M., 11 S. Twenty-first St.
Lane, Dudley W., 2237 N. Twenty-ninth St.
Langdon, H. Maxwell, 2018 Chestnut St.
Laplace, Ernest, 1828 S. Rittenhouse Square.
Larer, Richard W., 1407 East Columbia Ave.
Large, Margaret R., 1700 Norris St.
Large, Octavus P., Twenty-ninth St. and Susquehanna Ave.

Latchford, O. Luther, 1607 N. Fifteenth St.
Lathrop, Ruth Webster, 1415 N. Seventeenth St.
Latta, Samuel W., 233 South Fourth St.
Lau, Scott W., N.E.Cor.Fifteenth and Ritner Sts.
Lauer, J. Paul, 2636 West Somerset St.
Lautenbach, Louis J., 33 South Sixteenth St.
Lawrence, Granville A., 1330 Pike St.
Laws, George M., 2033 Locust St.
Leach, Wilmon W., 2118 Spruce St.
Leaman, Enos H., 3406 A St.
Leaman, Henry, 832 North Broad St.
Leaman, Rosh, 1818 Girard Ave.
Leaman, William G., 3700 Baring St.
LeBoutillier, Theodore, 9 S. Twenty-first St.
LeConte, Robert G., 1530 Locust St.
Lee, Walter Estell, 905 Pine St.
Leedom, John, 730 West Allegheny Ave.
LeFever, Charles W., 1708 Pine St.
Leffmann, Henry, 1839 N. Seventeenth St.
LeGates, Charles A., 1525 N. Thirteenth St.
Lehman, Frederick C., 2501 Columbia Ave.
Lehman, Joseph D., 4257 Main St., Manayunk.
Leidy, C. Fontaine-Maury, 315 S. Sixteenth St.
Leidy, Joseph, 1319 Locust St.
Leof, Morris V., 1700 North Franklin St.
Leonard, Charles F., 2025 South Tenth St.
Leonard, Charles Lester, 112 S. Twentieth St.
Leopold, Isaac, 1428 North Broad St.
Leopold, Samuel, 1632 North Franklin St.
Levan, George F., 733 North Forty-first St.
Levi, I. Valentine, 1736 North Sixteenth St.
Levy, David W., 1122 East Palmer St.
Levy, Jacob, 1739 South Fourth St.
Lewis, Bertha, 700 Montgomery Ave., Bryn Mawr (Montgomery Co.).
Lewis, Fielding O., 1327 Spruce St.
Lewis, Morris J., 1316 Locust St.
Litchtenwalner, Sarah M., 2435 N. Seventh St.
Liggett, Samuel J., 936 West Lehigh Ave.
Lincoln, Clarence W., Wayne (Delaware Co.).
Lippert, Frieda E., 1716 North Eighteenth St.
Lloyd, J. Hendrie, 116 S. Twenty-first St.
Lockrey, Sarah H., 1701 Chestnut St.
Lodholz, Edward, 3103 Diamond St.
Loeb, Ludwig, 1421 North Fifteenth St.
Loeb, Victor A., 1901 North Eighth St.
Loewenberg, Samuel A., 1528 South Fifth St.
Long, William H., 4657 Lancaster Ave.
Longaker, Daniel, 1402 North Sixteenth St.
Longenecker, Christian B., 3416 Baring St.
Longenecker, Jerome. 3409 Spring Garden St.
Longshore, Howard K., Glenside (Montg. Co.)
Longshore, J. Bartley, 3150 North Broad St.
Longstreth, Morris, 1416 Spruce St.
Loux, Hiram R., 1614 North Broad St.
Love, Julius D., 315 Pine St.
Love, Louis F., 1305 Locust St.
Lowa, Walter, 653 North Broad St
Lowenburg, Harry, 1502 Diamond St
Luburg, Leon F., 1822 Girard Ave.
Lucas, Walter S., Wynnewood (Montg. Co.).
Ludlum, Seymour D., 216 South Fifteenth St
Lutz, Hiram L., 5525 Woodland Ave.
Lynch, John J., 4280 Paul St.
Lyon, B. B. Vincent, 1901 Pine St.
Lytle, I. Walter, 1527 North Twentieth St.
McAlarney, William M., 1426 Poplar St
McAniff, Hugh P., 2113 N Seventh St
McCalmont, William S., 746 N. Sixty-third St.
McCarthy, Daniel J., 2025 Walnut St.
McClary, Samuel, 3d., 4901 Walnut St.
McClellan, George, 1116 Spruce St.
McCollin, S. Mason, 1725 Arch St.
McCombs, Robert S., 130 S. Twenty-second St.
McCombs, William, 721 North Eleventh St.
McConnell, Guthrie, Cynwyd (Montg. Co.).
McConnell, James W., 701 North Fortieth St.
McCormick, John A., 1311 N. Nineteenth St.
McCrae, Thomas, 1627 Spruce St.
McCreight, Robert M., 1340 E.Montgomery Ave.
McCullough, Francis J., 1512 South Tenth St.
McDaniel, Earl L., 1325 Erie Ave.
McDevitt, Charles H., 4552 Wayne Ave.
McDougald, John Q., 1336 Lombard St.
McDowell, Samuel B., 925 North Broad St.
McFarland, Joseph, 442 West Stafford St., Germantown.
McGinnis, Arthur, N. E. Corner Logan and Greene Sts., Germantown.
McGlinn, John A., 113 South Twentieth St.
McKeage, William, 3131 North Broad St.
McKee, James H., 1212 Spruce St.
McKeldin, Robert A. W., 5342 Catharine St.
McKenna, John A., Lansdowne (Del. Co.).
McKenzie, R. Tait, 26 S. Twenty-first St.
McKinley, Archbald L., 3702 North Broad St.
McLaughlin, John J., 1813 South Broad St.
McLean, John D., 1538 South Broad St.
McLernon, John, 2636 Federal St.
McNaul, William J., 333 Richmond St.
MacCarroll, D. Randall, 2503 South Broad St.
MacCoy, Alexander W., 216 S. Fifteenth St.
MacCracken, George Y., 612 N. Thirteenth St.
Macfarland, Frank H., 2046 Chestnut St.
Macfarlane, Catharine, 5808 Greene St., Germantown.
MacKay, William H. G., 1416 N. Sixteenth St.
Mackenzie, George W., 1831 Chestnut St.
MacKinney, William H., 1701 Chestnut St.
Maher, Caroline S. R., Lansdale Hospital, Lansdale (Montgomery Co.).
Maier, Ernest G., 1323 North Fifteenth St.
Maier, Frederick Hurst, 2035 Chestnut St.
Makuen, G. Hudson, 1627 Walnut St.
Mallon, Edward A., 1511 N. Seventeenth St.
Manasses, Jacob L., 3110 Diamond St.
Manges, Willis F., 264 S. Sixteenth St.
Mann, Benjamin H., 1603 South Fifth St.
Mann, Bernard, 107 North Sixtieth St.
Mann, James P., 1234 Spring Garden St.
Manning, Charles L., 1818 Tioga St.
Manning, Valentine R., 800 E. Allegheny Ave.
Mantz, Francis A., 233 N. Eighteenth St.
Marks, Morris, 607 North Sixth St.
Marshall, Clara, 258 South Sixteenth St.
Marshall, George M., 1819 Spruce St.
Marter, Linnaeus E., 1631 Race St.
Martin, Collier F., 1831 Chestnut St.
Martin, Edward, 1506 Locust St.
Martin, Joseph, 2009 Columbia Ave.
Martin, William Orlando, 4268 Paul St.
Marvel, Henry V., 4839 Baltimore Ave.
Masland, Harvey C., 2130 N. Nineteenth St
Massey, G. Betton, 1831 Chestnut St.
Matthews, Abel J., Spencer St., West of Old York Road.
Matthews, Franklin, 1720 N. Twenty-second St
Matlack, Frank S., 1126 Cayuga St
Matlack, Thomas, 2302 East York St

Mayor, Charles A., 1006 Ritner St.
Mays, Thomas J., 1829 Spruce St.
Megargee, George L., 1 Madison Ave.,New York.
Mellersh, Alfred H., Lyceum and Manayunk Aves.
Mellor, Howard, 1716 Locust St.
Mellor, John, 2045 Margaret St.
Melman, Ralph J., 959 North Sixth St.
Menah, William M., 143 North Twentieth St.
Mencke, J. Bernard, 908 N. Sixteenth St.
Merrill, William J., 1927 Chestnut St.
Mercher, Harry Leonard, German Hosp., Girard and Corinthian Aves.
Mershon, Oliver F., 2305 Christian St.
Messing, Max, 1736 South Fifth St.
Metheny, S. A. Sterrett, 617 N. Forty-third St.
Metzler, Gottfried, 949 North Franklin St.
Meyers, Milton K., 3401 N. Twenty-second St.
Michener, Evan W., 3722 North Broad St.
Mill, George, 214 McKean St.
Miller, Albert G., 2150 North Twenty-first St.
Miller, Edwin B., 2351 E. Cumberland St.
Miller, George B., 634 Diamond St.
Miller, Mary T., 313 North Thirty-third St.
Miller, Morris B., 2117 Pine St.
Miller, Ruth Anne, 5031 Woodland Ave.
Miller, Walter M., 5100 Spruce St.
Milliken, Fred H., 3716 Walnut St.
Mills, Charles K., 1909 Chestnut St.
Mills, H. Brooker, 1411 Spruce St.
Minehart, John R., 4821 Germantown Ave.
Missett, Joseph V., S. E. Corner Sixty-third and Race Sts.
Mitchell, Charles F., 342 South Fifteenth St.
Mitchell, Edward K., 710 West Lehigh Ave.
Mitchell, John K., 1730 Spruce St.
Mitchell, S. Weir, 1524 Walnut St.
Mitchell, William C., 1700 Diamond St.
Modell, Daniel A., 514 North Fourth St.
Mongel, Ernest B., 1429 Tioga St.
Montealegre, Edgar, St. Luke's Hosp., Broad and Wingohocking Sts.
Montgomery, Charles M., 905 Pine St.
Montgomery, Edward E., 1426 Spruce St.
Moore, Cyrus C., 2118 North Hancock St.
Moore, Edward J., 1538 N. Fifteenth St.
Moore, Henry D., 1528 Tasker St.
Moore, John D., 1940 North Broad St.
Moore, Joseph A., 1216 North Sixth St.
Moore, Philip H., 1225 Spruce St.
Moore, William D., 6008 Germantown Ave.
Moorhead, Stirling W., 1523 Pine St.
Moorhead, William W., 1523 Pine St.
Morgan, Arthur C., 3118 Diamond St.
Moriarty, Charles A., 1641 Fairmount Ave.
Morris, Casper, 2050 Locust St.
Morris, Elliston J., 128 South Eighteenth St.
Morris, Henry, 313 South Sixteenth St.
Morris, J. Cheston, 1514 Spruce St.
Morrison, William H., 8021 Frankford Ave.
Morton, George D., Honeybrook (Chester Co.).
Morton, Samuel W., 1933 Chestnut St.
Mossell, Nathan F., 1432 Lombard St.
Moulton, Albert R., Pennsylvania Hosp., Dept. for the Insane, Forty-ninth and Market Sts.
Moxey, Albert F., 12 East Mt. Pleasant Ave., Mt. Airy, Philadelphia.
Moylan, John J., 228 E.Price St., Germantown.
Moylan, Peter F., 1005 North Sixth St.
Mudgett, John H., 2028 North Thirteenth St.
Müller, Andrew J., 1136 North Third St.
Müller, George P., 334 South Fifteenth St.
Müller, Wm. K., 5429 Greene St., Germantown.
Mulrenan, John P., 1228 S. Broad St.
Munson, Henry G., 4935 Catharine St.
Murphy, John A., 5214 Germantown Ave.
Musser, John H., Jr., 1911 Pine St.
Musson, Emma E., 213 South Seventeenth St.
Mutschler, Louis H., 2030 Tioga St.
Myers, Tallyrand D., 1521 Spruce St.
Nassau, Charles F., 1831 Chestnut St.
Naulty, Charles W., Jr., Quarantine Station, Perth Amboy, N. J.
Nead, Daniel W., 1221 Seneca St., Buffalo, N.Y.
Neel, Henry A. P., 3602 Disston St.
Neff, Joseph S., 584 City Hall.
Neilson, Thomas R., 1937 Chestnut St.
Newbold, Henry A., 2117 Chestnut St.
Newbold,William Augustus, 236 S.Forty-fifth St.
Newcomet, William S., 3501 Baring St.
Newlin, Arthur, 1804 Pine St.
Newmayer, Solomon W., 1834 Girard Ave.
Newton, Edward A., 3 Victoria Strasse, Bad Nauheim, Germany.
Newton, Robley D., 6137 Vine St.
Nichols, William, 2022 Bainbridge St.
Nicholson, William R., 1731 Pine St.
Noble, Charles P., 1509 Locust St.
Nock, Thomas O., 821 N. Twenty-fourth St.
Nofer, George H., 1759 Frankford Ave.
Norris, Charles C., 1503 Locust St.
Norris, George W., 1530 Locust St.
Norris, Richard C., 500 North Twentieth St.
O'Brien, Matthew C., 6377 Sherman St., Germantown.
O'Connell, John A., 2130 Pine St.
O'Drain, Thomas I., 2504 East Allegheny Ave.
O'Farrell, Gerald D., Jr.,1301 W.Allegheny Ave.
O'Hara, Michael, Jr., 2018 Pine St.
O'Malley, Austin, 2228 South Broad St.
O'Malley, Joseph, 2228 South Broad St.
O'Neill, Joseph F., 1809 Vine St.
O'Reilly, Charles A., 1806 Chestnut St.
Off, Henry J., 323 South Twentieth St.
Olsho, Sidney L., 1632 Walnut St.
Oppenheimer, James H., % Larie Stern & Co., 158 Pine St., Providence, R. I.
Osborne, Matilda O., 3329 North Fifteenth St.
Osman, Joseph R., 4001 Pine St.
Osmond, Anna R., Philadelphia County Prison, Tenth and Reed Sts.
Osmond, Martha E., 6952 Torresdale Ave.
Ostheimer, Maurice, 2202 DeLancey St.
Ott, Lambert, 831 North Broad St.
Ottinger, Samuel J., Twelfth and Master Sts.
Outerbridge George Whitney, 2040 Chestnut St.
Owen, John J., 411 Pine St.
Packard, Francis R., 304 South Nineteenth St.
Page, Henry F., 315 S. Sixteenth St.
Paist, Henry C., 1226 North Franklin St..
Pancoast, Charles S., 2115 Chestnut St.
Pancoast, Henry K.,Box 203, Bala (Montg. Co.).
Pancoast, J. William, 1611 N. Thirteenth St.
Parish, Benjamin D., 29 South Nineteenth St.
Parke, William E., 1739 N. Seventeenth St.
Parker, J. Sparkes, 6805 Woodland Ave.
Parrish, Henry, 5343 Baltimore Ave.
Parrish, Robert C., 5301 Chester Ave.
Patterson, Francis D., 2103 Locust St.

Patterson, Ross V., 340 South Sixteenth St.
Paul, James H., 2131 South Nineteenth St.
Pearce, Richard Mills, 2114 DeLancey St.
Pearson, John S., 1507 Christian St.
Pease, Theodore N., 5800 Spruce St.
Peck, Elizabeth L., 4113 Walnut St.
Pemberton, Ralph, 2224 Locust St.
Pennock, Walter J., 1422 N. Seventeenth St.
Penrose, Charles B., 1720 Spruce St.
Pepper, O. H. Perry, 1811 Spruce St.
Pepper, Wilbur L., 3148 Berks St.
Pepper, William, 1811 Spruce St.
Percival, M. Frasier, 1144 Jackson St.
Perkins, Francis M., 332 South Fifteenth St.
Perlman, Horace D., 1932 North Seventh St.
Peter, Luther C., 1700 Oxford St.
Petery, Arthur K., 1536 Diamond St.
Pettigrew, James W.,2129 N.Twenty-seventh St.
Pfahler, George E., 1321 Spruce St.
Pfeiffer, Damon B., 2028 Pine St.
Pflueger, Henry F., 1517 North Seventh St.
Pfromm, George W., 1431 North Fifteenth St.
Phelps, George F., 6019 Lansdowne Ave.
Phillips, Horace, Pennsylvania Hospital for the Insane, Forty-ninth and Market Sts.
Phillips, James R., 1827 S. Eighteenth St.
Phillips, Richard J., 122 S. Thirty-ninth St.
Picard, Henry L., 1922 Race St.
Pickett, Elizabeth L., Aldan (Delaware Co.).
Piersol, George A., 4724 Chester Ave.
Piersol, George Morris, 1927 Chestnut St.
Pike, Charles P., 7242 Woodland Ave.
Pilkington, Horatio, 4238 Paul St., Frankford.
Pilling, George P., Jr., 4044 Chestnut St.
Plass, Charles F. W., Chelten Ave. and Chew St., Germantown.
Podolski, L. A., 1117 West Lehigh Ave.
Pontius, Paul J., 1831 Chestnut St.
Posey, William C., N. E. Cor. Twenty-first and Chestnut Sts.
Potsdamer, Joseph B., 1818 North Broad St.
Pottberg, Charles, 2338 North Broad St.
Potter, Ellen C., 5138 Wayne Ave.
Potts, Charles S., 2018 Chestnut St.
Powell, William Elwood, 2357 E. Dauphin St.
Price, Charles E., 316 North Fifty-second St.
Price, George E., 1700 Walnut St.
Propper, Julius, 4502 Baker St.
Purnell, Caroline M., 132 S. Eighteenth St.
Pyle, Walter L., 1931 Chestnut St.
Quicksall, William E., 5121 Baltimore Ave.
Raby, Mahlon R., 5430 Wayne Ave.
Radcliffe, McCluney, 1906 Chestnut St.
Raferty, John, 2316 Reed St.
Rainear, A. Rusling, 2024 Diamond St.
Rainville, Joseph A., 1312 Porter St.
Ramsey, Robert N., 1124 S. Forty-sixth St.
Randall, Alexander, 1831 Chestnut St.
Randall, B. Alexander, 1717 Locust St.
Randle,William H.,5304 Chew St.,Germantown.
Ransley, Alexander W., 309 S. Sixteenth St.
Raudenbush, James S., 3633 N. Fifteenth St.
Reber, Wendell, 1212 Spruce St.
Reckefuss, Charles H., Jr., 506 N. Sixth St.
Reddie, Jacobina S., 880 North Forty-first St.
Reed, Howard, 1829 Diamond St.
Regar, Horace K., 1909 North Thirteenth St.
Reiff, E. Paul, 5051 Chestnut St.
Reimel, Clara, 723 West Girard Ave.
Reisert, William, 1507 South Broad St.
Reiss, Abe, 910 North Franklin St.
Renninger, Abner R., 1503 Locust St.
Repp, John J., 926 South Sixtieth St.
Repplier, Sidney J., 4521 Chestnut Ave.
Reynolds, Charles B., 2003 Diamond St.
Rhein, John H. W., 1732 Pine St.
Rhein, Robert D., 2016 Pine St.
Rhoads, Edward G., 159 West Coulter St., Germantown.
Rhoads, John Neely, 1833 Chestnut St.
Rhoads, Samuel, 152 School Lane, Germantown.
Richards, Davis Bruce, 1752 North Tenth St.
Richards, Florence H., 1802 Catharine St.
Richardson, Neafie, N. E. Corner Broad and Norris Sts.
Ridpath, Robert F., 700 E. Chelten Ave.
Riegger, Marie, 909 N. Twelfth St.
Riesman, David, 1715 Spruce St.
Righter, Harvey M., N. E. Cor. Fifty-first and Spruce Sts.
Ring, G. Oram, 2014 Chestnut St.
Rinehart, C. Albright, 1324 N. Fifty-second St.
Risley, J. Norman, 134 South Twentieth St.
Risley, Samuel D., 2018 Chestnut St.
Ritter, William J., 2235 North Fifteenth St.
Rivas, Damaso, Med. Dept., Univ. of Penna.
Roberts, John B., 313 South Seventeenth St.
Roberts, Mercedes A., 1144 S. Eleventh St.
Roberts, Walter, 1732 Spruce St.
Roberts, William P., 1315 North Thirteenth St.
Robertson,William E., 327 South Eighteenth St.
Robinson, Edwin T., 1906 Pine St.
Robinson, William D., 2012 Mt. Vernon St.
Robrecht, John J., 3940 Chestnut St.
Rochelle, Mary J., 2073 East Cumberland St.
Roddy, John A., 1604 Pine St.
Roderer, John F., 2426 North Sixth St.
Rodman, J. Stewart, 1904 Chestnut St.
Rodman, William L., 1904 Chestnut St.
Roe, William J., 1322 Locust St.
Rogers, Asa H., 911 Indiana Ave.
Rogers, George Ross, 4631 Wayne Ave., Germantown.
Rommel, John C., 1520 Wingohocking St.
Rosenberger, Randle C., 2330 N Thirteenth St.
Ross, George G., 1721 Spruce St.
Ross, Joseph H., 106 Susquehanna Ave.
Ross, Thomas C., 1424 Sellers St.
Roussel, Albert E., 2108 Pine St.
Rovno, Philip, 423 Pine St.
Rowand, Alex H. C., 3704 Spring Garden St.
Royer, B. Franklin, Donaldson Bldg., Harrisburg (Dauphin Co.).
Rubinsohn, Samuel L., 5748 Chestnut St.
Ruff, Adolph, 2413 North Tenth St.
Ruff, William F., 742 N. Fortieth St.
Ruffell, Charles E., 244 East Girard Ave.
Rugh, J. Torrance, 1616 Spruce St.
Runkle, Stuart C., 1605 Christian St.
Ruoff, William, 1301 North Thirteenth St.
Rupert, Mary P. S., 1709 Pine St.
Russell, Charles T., Jr., 2521 East Norris St.
Russell, Ella M., 2035 Chestnut St.
Russell, Evans D., Presbyterian Hospital.
Ryan, William J., 701 South Fifty-fifth St
Ryan, Maria Page, 1246 South Broad St
Saalfrank, Charles W., 6410 Rising Sun Ave
Sailer, Joseph, 1830 Spruce St.
Sajous, Charles E. deM., 2043 Walnut St
Sajous, Louis T. deM., 2043 Walnut St.

Sallom, Abdullah K., 1625 South Fifteenth St.
Sampson, Allen G., 2834 Columbia Ave.
Santee, Eugene I., 532 North Sixth St.
Sargent, Albert Alonzo, 1308 Pine St.
Sartain, Paul J., 212 West Logan Square.
Saunders, Robert Ritchie, 926 N. Fifteenth St.
Sautter, Albert C., 1421 Locust St.
Savitz, Samuel A., 1825 Tasker St.
Saxon, Gordon J., 5314 Spruce St.
Saylor, Edwin S., 2005 Chestnut St.
Scarlett, Rufus B., 4009 Chestnut St.
Schantz, William S., 3557 North Broad St.
Schatz, Harry A., 1331 North Franklin St.
Schaeffer, J. Henry, 2010 East York St.
Schaffle, Karl, 4719 Baltimore Ave.
Schamberg, Jay F., 1922 Spruce St.
Schaubel, Charles W., 2346 East Norris St.
Scheehle, J. Evans, 1504 Christian St.
Schell, J. Thompson, 1832 Diamond St.
Schenberg, Joseph, 426 N. Fifty-third St.
Schenker, Hyman I., 635 North Fifth St.
Schetky, Martha G. K., 911 S. Forty-eighth St.
Schetky, S. Elizabeth A., Vienna, Austria.
Schilling, Francis M., 5627 Chester Ave.
Schisler, Belle A., 2835 Diamond St.
Schneideman, Theodore B., 1831 Chestnut St.
Schneideman, Florence Mayo, 1831 Chestnut St.
Schoales, Charles B., 1428 North Eleventh St.
Schock, Harvey E., 2128 South Broad St.
Schoening, J. Jacob, 1908 North Park Ave.
Scholl, B. Frank, 1420 North Seventeenth St.
Schoonmaker, Irving R., 1517 S. Fifty-third St.
Schumann, Edward A., 15 Pelham Road, Germantown.
Schweinitz, George E. de, 1705 Walnut St.
Schweinitz, George Lord de, 2040 Chestnut St.
Schwenk, Peter N. K., 1417 North Broad St.
Scull, William B., 3024 Richmond St.
Seabold, William F., 5617 Spruce St.
Seabrook, Alice M., Twenty-second St. and North College Ave.
Seiberling, Joseph D., 1807 Arch St.
Seifert, F. Robert, 2202 E. Cumberland St.
Seiler, Minnie Myrtle, 57 N. Fifty-seventh St.
Seilikwitch, Solomon, 935 South Third St.
Seiss, Ralph W., 255 South Seventeenth St.
Seixas, Marie A., Stop 17, San Juan, Porto Rico.
Service, Charles A.,City Ave. Bala (Montg.Co.).
Severs, Benjamin F., 2348 N. Twenty-ninth St.
Shaham, Simon, 761 South Fifth St.
Shammo, George C., 260 N. Fifty-second St.
Shannon, Charles E. G., 1633 Spruce St.
Shea, William Ker, 1705 N. Eighteenth St.
Sheaff, Philip A., 4008 Baring St.
Shellenberger, Jacob R., 5505 Germantown Ave.
Shick, William B., 1218 Rockland St., Logan.
Shields, Wm. G., 412 School Lane, Germantown.
Schmookler, Henry B., 1320 South Fifth St.
Shoemaker, George Erety, 1831 Chestnut St.
Shoemaker, William T., 109 S. Twentieth St.
Sholler, George W., 1224 West Lehigh Ave.
Shrom, Ralph E., 1745 North Seventeenth St.
Shumway, Edward A., 2007 Chestnut St.
Shurtleff, Henry C., 31 South Fortieth St.
Shute, Harry A., 1408 N. Fifteenth St.
Sickel, George Benson, Samaritan Hosp., Broad and Ontario Sts.
Siegel, Alvin E., 1618 Pine St.
Silverman, Abraham, 930 North Eleventh St.
Simcox, Lawrence, 103 West Walnut Lane, Germantown.
Simmons, Clifford F., 1939 Hunting Park Ave.
Simsohn, Joseph S., 909 North Franklin St.
Sinclair, John F., 4103 Walnut St.
Sinexon, Justus, 3243 Chestnut St.
Singer, Benjamin L., 1914 N. Eighteenth St.
Sinkler, Francis W., 1606 Walnut St.
Siter, E. Hollingsworth, 2038 Locust St.
Skillern, Penn G., 241 South Thirteenth St.
Skillern, Penn G., Jr., 241 South Thirteenth St.
Skillern, Ross Hall, 2032 Chestnut St.
Skillern, Samuel R., 3509 Baring St.
Skilling, Michael J., 1635 Christian St.
Slaughter, Charles H., 1602 S. Broad St.
Slaymaker, John M., 3502 Spring Garden St.
Slifer, George Baringer, 1707 Ritner St.
Small, John Hamilton, 2030 Chestnut St.
Small, William B., 2232 Green St.
Smiley, Anne E., 5203 Haverford Ave.
Smith, Alexis D., 5926 Greene St., Germantown.
Smith, Allen J., Thirty-ninth and Locust Sts.
Smith, Caroline E., Perry Bldg., Sixteenth and Chestnut Sts.
Smith, Clarence D., 741 Spruce St.
Smith, David D.,131 W.Coulter St.,Germantown.
Smith, Frederick Conrad, 3452 Kensington Ave.
Smith, Henry A., N.E.Cor.Oxford and Sixteenth Sts.
Smith, Joseph I., 1721 North Seventeenth St.
Smith, Rolla L., 2987 Richmond St.
Smith, Russell A., 32 East Mt. Pleasant Ave., Mt. Airy.
Smith, S. MacCuen, 1429 Spruce St.
Smock, Ledru P., 3330 Chestnut St.
Snively, Andrew F., 5300 Market St.
Snively, Robley Dunglison, 1709 Tioga St.
Snodgrass, Oliver E., 2350 North Nineteenth St.
Snyder, Elizabeth, 2002 Columbia Ave.
Snyderman, Harry S., 1306 North Sixth St.
Sohn, George W., 135 Green Lane, Manayunk.
Somers, Lewis S., 3554 North Broad St.
Spaeth, William L. C., 4431 Frankford Ave.
Spangler, Ralph H., 2217 S. Broad St.
Speese, John, 248 South Twenty-first St.
Spellissy, Joseph M., 110 S. Eighteenth St.
Spencer, George W., 1838 Christian St.
Spiegle, Grace E., 2115 North Twelfth St.
Spiess, Walter G., 713 West Allegheny Ave.
Spiller, William G., 4409 Pine St.
Spitz, Louis, 4112 Girard Ave.
Sprague, Frances R., 1831 Chestnut St.
Sprissler, Theodore, 609 South Ninth St.
Stahl, B. Franklin, 1727 Pine St.
Stalberg, Samuel, 1331 South Sixth St.
Staller, Max, 1310 South Fifth St.
Stamm, Camille J., 1309 North Broad St.
Starck, Albert A. G., 6046 Christian St.
Starkey, Frank R., 2105 Chestnut St.
Stauffer, Nathan P., 4833 Baltimore Ave.
Steel, William A., 330 North Broad St.
Steinbock, Frederick W., 1339 N. Thirteenth St.
Steiner, Samuel, 851 North Fifth St.
Stellwagon, Thomas C., Jr., 1831 Chestnut St.
Stelwagon, Henry W., 1634 Spruce St.
Stembler, Harry Abraham, 947 North Sixth St
Stengel, Alfred, 1728 Spruce St.
Stevens, Arthur A., 314 South Sixteenth St.
Stevens, William W., 5722 Chester Ave.

Stewart, Francis E., 11 West Phil-Ellena St., Germantown.
Stewart, Francis T., 311 South Twelfth St.
Stewart, Helen Montgomery, 2035 Chestnut St.
Stewart, Thomas S., S. E. Cor. Eighteenth and Spruce Sts.
Stiles, Charles M., 1831 Chestnut St.
Stiles, Francis A., 3801 Powelton Ave.
Stillwell, Walter C., 1248 South Broad St.
Stimson, C. M., 1801 Cayuga St.
Stirk, James C., 2009 Chestnut St.
Stirling, Samuel R., 1931 East Cumberland St.
Stone, Edward R., 1701 Master St.
Stout, Emanuel J., 1401 Oxford St.
Stout, George C., 1611 Walnut St.
Stout, Philip Samuel, 4701 Chester Ave.
Stover, I. Francis, 7934 Germantown Ave.
Strauss, Abram, 1819 N. Seventeenth St.
Strawbridge, George, 202 South Fifteenth St.
Strawbridge, I. Rendall, 1107 Wallace St.
Strecker, Henry A., 1318 Pine St.
Strittmatter, Isador P., 999 North Sixth St.
Strobel, John, 948 North Fifth St.
Stroup, A. Clarke, 1245 S. Twenty-third St.
Strouse, Frederic M., 2220 North Broad St.
Strousse, Jacob L., 939 North Eighth St.
Stryker, Samuel S., Northeast Corner Thirty-ninth and Walnut Sts.
Stuckert, Harry, 2116 N. Twenty-first St.
Sturtevant, Charles U., 4321 Frankford Ave.
Suiter, David L., 137 East Wyoming Ave.
Sutliff, Fred A., 4404 Germantown Ave.
Sutton, Howard A., 314 S. Fifteenth St.
Swalm, Charles J., State Hospital for Insane, Norristown (Montgomery Co.).
Sweet, William M., 1205 Spruce St.
Swindells, Walton C., 2049 Chestnut St.
Tait, Thomas W., 320 South Fifteenth St.
Tallant, Alice Weld, 1807 Spruce St.
Talley, James E., 218 South Twentieth St.
Target, John D., 1112 Jackson St.
Taylor, Charles F., 1520 Chestnut St.
Taylor, James Gurney, Wynnewood (Montg. Co.).
Taylor, J. Madison, 1504 Pine St.
Taylor, Mervyn Ross, 1706 Race St.
Taylor, Robert F., 2450 Amber St.
Taylor, William J., 1825 Pine St.
Taylor, William L., 1340 North Twelfth St.
Teller, William H., 1713 Green St.
Thissell, Henry N., S. E. Corner Chelten Ave. and Canal St., Oak Lane.
Thomas, Anne H., 138 South Forty-sixth St.
Thomas, Benjamin A., 116 South Nineteenth St.
Thomas, Charles H., 3634 Chestnut St.
Thomas, Eb. W., 1833 Chestnut St.
Thomas, Frank W., 27 Mt. Airy Ave., Germantown.
Thomas, George P., 2113 North Seventh St.
Thomas, T. Turner, 2005 Chestnut St.
Thomas, W. Hersey, 1445 N. Seventeenth St.
Thomson, Archibald G., 1516 Locust St.
Thorington, James, 2031 Chestnut St.
Thornton, Edward Quin, 1331 Pine St.
Thornton, Mary Bickings, 2703 W. Somerset St.
Thrush, M. Clayton, 3705 Spring Garden St.
Tomlin, Abner N., 4000 Haverford Ave.
Tomlinson, William H., 5827 Greene St., Germantown.
Torrey, Robert G., 255 South Sixteenth St.
Town, Edwin C., Broad St. Station.
Town, Edwin C., Jr., Narberth (Montg. Co.).
Tracy, Martha, 5138 Wayne Ave.
Tracy, Stephen E., 1527 Spruce St.
Traganza, Frederick, 2009 N. Twenty-second St.
Treichler, Elsie Rau, 1721 N. Thirty-third St.
Trau, Philip A., 1520 Diamond St.
Trexler, Henrietta M. Dougherty, 923 West Susquehanna Ave.
Trotman, James Augustus, 1608 Wharton St.
Tucker, Henry, 2000 Pine St.
Tull, Montrose Graham, 4728 Baltimore Ave.
Tullidge, George B., 801 North Sixty-third St.
Tully, Edgar Warren, 2400 North Broad St.
Tunis, Joseph P., St. Martin's, Philadelphia.
Turnbull, Charles S., 1935 Chestnut St.
Turnbull, William G., 724 North Fortieth St.
Turner, John B., 1525 Christian St.
Twaddell, Thomas P. H., 4203 Chester Ave.
Tyson, James, 1506 Spruce St.
Tyson, T. Mellor, 1506 Spruce St.
Uhle, Alexander A., 1701 Chestnut St.
Ullom, Josephus T., 24 Carpenter St., Germantown.
Ulman, Joseph F., 2629 N. Twenty-ninth St.
Umsted, William M., 2812 Oxford St.
Vail, Wm. Penn, The Warwick, 1906 Sansom St.
Vanderslice, Edward S., 127 South Fifth St.
VanDervoort, Charles A., Flanders Bldg., Fifteenth and Walnut Sts.
VanGasken, Frances C., 115 South Twenty-second St.
VanKorb, William, 5623 Wyalusing Ave.
VanPelt, William T., 1528 Spruce St.
Vansant, Eugene L., 1929 Chestnut St.
Vaux, Morris W., 8901 Germantown Ave.
von Cotzhausen, Louis, 838 N. Twenty-fourth St.
Waage, Frederick O., 4104 Girard Ave.
Wadsworth, William S., 207 S. Forty-fifth St.
Wagner, Wm. Edgar, 4627 Baltimore Ave.
Wainwright, Maud, 5203 Walnut St.
Walk, James W., 737 Corinthian Ave.
Walker, Holmes, 5429 Lansdowne Ave.
Walker, John K., 1915 Rittenhouse St.
Walker, John T., 1606 North Eighth St.
Walker, Robert B., 1936 Wallace St.
Wallis, J. Edward, 2642 Richmond St.
Walsh, Joseph, 732 Pine St.
Walsh, William H., Municipal Hosp., Second and Luzerne Sts.
Walter, Max Johannes, 1712 Mt. Vernon St.
Walters, B. Frank, Jr., Security Bank Bldg., Sioux City, Iowa.
Ward, E. Tillson, 1415 South Broad St.
Warlow, Margaret A., 1718 S. Eighteenth St.
Warmuth, Mitchell P., 1701 Chestnut St.
Watson, Arthur W., 126 S. Eighteenth St.
Watson, Edward W., 38 South Nineteenth St.
Watson, W. Newbold, 636 S. Forty-eighth St.
Watt, Charles Channing, Jr., Wayne Ave. and Hortter St.
Watt, Robert, 2822 Frankford Ave.
Weaver, Albert P., 879 Belmont Ave.
Weber, Harry F., 4440 Germantown Ave.
Weber, Randall J., 2403 North Seventeenth St.
Webster, Aubrey B., 4821 Baltimore Ave.
Weidman, Fred D., 242 N. Sixty-first St.
Weinstein, George L., 1701 Harrison St., Frankford.
Weintraub, Sarah L., 1929 South Broad St.
Weisenburg, Theodore H., 2030 South Broad St.

Weiss, Hervey B., 1929 North Howard St.
Welch, William M., 1411 Jefferson St.
Wells, Charles H., 773 Preston St.
Wells, P. Frailey, S. W. Cor. Fortieth and Brown Sts.
Wells, William H., 1135 Spruce St.
Wendkos, Simon, 1527 North Franklin St.
Wenner, Ellis Bruce, 3805 Baring St.
Wentz, B. Frank, 6602 Woodland Ave.
Wentzel, Mary, 3628 N. Broad St.
Werner, Julius L., 1533 S. Sixth St.
Wessels, Lewis C., 1918 N. Twenty-second St.
West, Charles W., 1618 Pine St.
West, John W., 1125 Wallace St.
West, S. Leslie, 1735 Diamond St.
Westcott, Thompson S., 1720 Pine St.
Wetherill, H. Emerson, 3734 Walnut St.
Weyant, Harry W., 911 North Fourth St.
Weyl, Esther M., 757 North Twentieth St.
Whaland, Berta, 2137 North College Ave.
Wharton, Henry R., 1725 Spruce St.
Wheeler, Edwin B., 1919 North Eighth St.
Whetstone, William B., 4820 Chester Ave.
Whitall, James Dawson, 2124 N. Twentieth St.
White, Charles A., 3430 North Second St.
White, Courtland Y., 1808 Diamond St.
White, Frank, 1852 North Thirteenth St.
White, J. William, 1810 S. Rittenhouse Sq.
Whiteway, Harold M., 1924 Chestnut St.
Whiting, Albert D., 1523 Spruce St.
Widdowson, Frank R., 1438 North Sixtieth St.
Wieder, Henry S., 2137 Fifteenth St.
Wiggin, Susan W., 1918 Wallace St.
Wiggins, Edward H., 4415 North Uber St.
Wightman, John G., 2030 Wallace St.
Wiley, Harry E., 1440 South Broad St.
Wilkes, LeRoy Augustus, 735 S. Twenty-second
Willard, DeForest Porter, 1933 Chestnut St.
Williams, Rachel R., Penn Building, Fifteenth and Chestnut Sts.
Williamson, James, 2101 Tioga St.
Williamson, Katharine A., 254 S. Thirteenth St.
Willits, I. Pearson, 31 West Walnut Lane, Germantown.
Willson, Robert N., Jr., 1708 Locust St.
Wilmer, Harry B., 6019 Germantown Ave.
Wilson, H. Augustus, 1611 Spruce St.
Wilson, James C., 1509 Walnut St.
Wilson, Oscar H., Burn Brae, Clifton Heights (Delaware Co.).
Wilson, Samuel M., 1517 Arch St.
Wilson, W. Reynolds, 1709 Spruce St.
Winter, S. Elizabeth, Inwood Sanitarium, West Conshohocken (Montg. Co.).
Wise, Henry Moses, 1824 Venango St.
Wister, James W., 5430 Germantown Ave.
Wolf, Wilbert J., 3474 Frankford Ave.
Wolfe, Samuel, 1701 Diamond St.
Wood, Alfred C., 2035 Walnut St.
Wood, George B., 129 South Eighteenth St.
Wood, Horatio C., Jr., 434 S. Forty-fourth St.
Wood, Walter A., 255 South Sixteenth St.
Woodbury, Frank, 218 South Sixteenth St.
Woods, Matthew, 1307 South Broad St.
Woods, Richard F., 1501 Spruce St.
Woodward, George, 709 North American Bldg.
Woody, Samuel S., Luzerne and Second Sts.
Wray, William S., 2007 Chestnut St.
Wrigley, Arthur, 1021 Pine St.
Yaeger, Christian G., 2403 East York St,
Yard, John L., 327 South Eighteenth St.
Yawger, Nathan, 2005 Chestnut St.
Yeager, George C., 1419 E. Susquehanna Ave.
Young, Charles Houston, 4813 Baltimore Ave.
Young, James K., 222 South Sixteenth St.
Zall, Bernard C., 923 North Sixth St.
Zentmayer, William, 1819 Spruce St.
Ziegler, S. Lewis, 1625 Walnut St.
Ziegler, Walter M. L., 1418 N. Seventeenth St.
Ziegler, William H., 3028 Frankford Ave.
Zimlick, Arthur, J., Cor. Greene and Harvey Sts., Germantown.
Zimmerman, Mason W., 1522 Locust St.
Zulich, Howell S., 2115 Erie Ave.
Zulich, J. Donald, 1321 Spruce St.

POTTER COUNTY SOCIETY.

(Organized April 5, 1898.)

President...Ross H. Jones, Coudersport.
V. Pres.....Hal A. Laye, Galeton.
John H. Page, Austin.
Sec. and Reporter....Elwin H. Ashcraft, Coudersport.
Treasurer...Robert B. Knight, Coudersport.
Censors.....James T. Hurd, Galeton.
Edwin H. Ashcraft, Coudersport.
Robert B. Knight, Coudersport.
F. Gurney Reese, Coudersport.
William H. Tassell, Coudersport.
Com. on Pub. Policy and Legislation..Edelbert U. Eaton, Ulysses.
James T. Hurd, Galeton.

Stated meetings second Tuesday in January, April, July and October, at Court House, Coudersport. Annual meeting in January.

MEMBERS (25).

Ashcraft, Elwin H., Coudersport.
Bently, J. Irving, Galeton.
Brown, Barton E., Masten (Lycoming Co.).
Church, Nathan W., Ulysses.
Colcord, Jos. B., Port Allegany (McKean Co.).
Eaton, Edelbert U., Ulysses.
Farwell, Franklin Pierce, Galeton.
Hart, Henry D., Genesee.
Hatch, Philip L., Coudersport.
Horn, Elmer E., Linden (Lycoming Co.).
Horn, Levi A., Austin.
Howe, William, Shingle House.
Hurd, James T., Galeton.
Jacobs, David E., Oswayo.
Jones, Ross H., Coudersport.
Knight, Robert B., Coudersport.
Laye, Hal A., Galeton.
Otto, James V., Port Allegany (McKean Co.).
Page, John H., Austin.
Reese, F. Gurney, Coudersport.
Squires, Walter H., Roulette.
Stearns, John A., Port Allegany (McKean Co.).
Steele, John G., Galeton.
Tassell, William H., Coudersport.
Winlack, Alexander, Shingle House.

SCHUYLKILL COUNTY SOCIETY.

(Organized 1845.)

President...Harry H. Stewart, Friedensburg.
V. Pres.....Raymond A. Dengler, Gilberton.
Sec. and Reporter....George O. O. Santee, Cressona.

Treasurer...David Taggart, Frackville.
Censors.....Christian Lenker, Schuylkill Haven.
J. Spencer Callen, Shenandoah.
Phaon H. Hermany, Mahanoy City.
George H. Halberstadt, Pottsville.
Albert F. Bronson, Girardville.

Com. on Pub.
Policy and
Legislation..W. T. Williams, Mt. Carmel.
J. H. Swaving, Pottsville.
C. Lenker, Schuylkill Haven.

Stated meetings in Pottsville (or elsewhere as may be selected) the first Tuesday of each month. Election of officers in January.

MEMBERS (83).

Auchmuty, John E., Tamaqua.
Bartho, Benjamin F., Mt.Carmel (Northum.Co.).
Beale, John E., Coaldale.
Berk, John K., Frackville.
Berkheiser, Arthur John, Shenandoah.
Biddle, Jonathan C., Ashland.
Binkley, George K., Orwigsburg.
Bowman, Henry C., Mahanoy City.
Boyer, Gouveneur H., Pottsville.
Brady, Sobieski H., Girardville.
Bronson, Albert F., Girardville.
Callen, J. Spencer, Shenandoah.
Carr, William H., Lancaster (Lancaster Co.).
Constein, Rudolph A., Ashland.
Corson, George R. S., Pottsville.
Dailey, John Joseph, McAdoo.
Dechert, Harry W., Orwigsburg.
Dengler, Raymond A., Gilberton.
Dirschedl, Henry A., Pottsville.
Donaghue, Louis F., Mahanoy Plane.
Evans, Harriet I., Mahanoy City.
Farquhar, George W., Belleville (Mifflin Co.).
Fegley, Theodore C., Tremont.
Fleming, Arthur B., Tamaqua.
Freudenberger, Katrina, Tamaqua.
Gallagher, John C., Shenandoah.
Gillars, Alexander L., Pottsville.
Gillette, Claude W., Schuylkill Haven.
Gruhler, Christian, Shenandoah.
Gulden, Benjamin C., Minersville.
Halberstadt, George H., Pottsville.
Harding, Frederick B., Tamaqua.
Heim, Lyman D., Schuylkill Haven.
Heller, James B., Pottsville.
Hensyl, George S., Mahanoy City.
Hermany, Phaon H., Mahanoy City.
Hoffman, J. Louis, Ashland.
Householder, Merchant C., Pottsville.
Jones, Adna S., Girardville.
Kennedy, Louis T., Pottsville.
Kingsbury, Mary B., Pottsville.
Kramer, Joseph G., Pottsville.
Lenker, Christian, Schuylkill Haven.
Lenker, Robert W., W. Leesport (Berks Co.).
Lessig, James Alfred, Schuylkill Haven.
McCutcheon, T. O., Gordon.
Marshall, David S., Ashland
Marshall, John F., Ashland.
Matten, William H., McKeansburg.
Miller, Charles D., Pottsville.
Monaghan, James M., Minersville.
Montellius, Ralph W., Mt.Carmel (Northum.Co.).
Moore, George H., Schuylkill Haven.
Moore, John J., Pottsville.
Morgan, David, Auburn.
O'Hara, Patrick H., Pottsville.
Reese, George W., Shamokin Hospital, Shamokin (Northumberland Co.).
Renn, Roy H., Tremont.
Rentschler, Walter R., Ringtown.
Ressler, George W., Ashland.
Riley, John D., Mahanoy City.
Roberts, J. Pierce, Shenandoah.
Robinhold, Lewis C., Auburn.
Roderick, Richard D., Maryd.
Roth, Victor T., Pottsville.
Ryan, John T., St. Clair.
Samuel, Edward W., Mt.Carmel (Northum.Co.).
Santee, George O. O., Cressona.
Schultz, J. William, Tremont.
Seligman, Abram P., Mahanoy City.
Shifferstein, Edgar E., Tamaqua.
Stein, Newton Henry, Middleport.
Stein, William N., Shenandoah.
Stewart, Harry H., Friedensburg.
Swaving, J. Henry, Pottsville.
Taggart, David, Frackville.
Wadlinger, Charles V., Port Carbon.
Walter, Frank J., Pinegrove.
Warne, J. L., Pottsville.
Wasley, Harry M., Shenandoah.
Weisner, Edwin E., Tamaqua.
Williams, T. Lamar, Mt.Carmel (Northum.Co.).
Williams, Wm. T., Mt. Carmel (Northum. Co.).

SNYDER COUNTY SOCIETY.

(Organized May 18, 1905.)

President...E. W. Tool, Freeburg.
V. Pres.....Dwight E. Long, McKees Half Falls.
Sec. and
Reporter....John O. Wagner, Beaver Springs.
Treasurer...Edwin M. Miller, Beavertown.
Censors.....Frank J.Wagenseller, Selins Grove.
B.Frank Wagenseller, Selins Grove.
W.W. Longacre, Mt. Pleasant Mills.

Com. on Pub.
Policy and
Legislation'.Edwin M. Miller, Beavertown.
Chas. N. Brosius. Shamokin Dam.

Annual meeting in January. Stated meetings at 11 A.M. (unless otherwise ordered), the first Friday of each month, at Middleburg or elsewhere as ordered by vote of the society.

MEMBERS (17).

Brosius, Charles N., Shamokin Dam.
Deckard, J. W., Richfield (Juniata Co.).
Decker, E. R., Selins Grove.
Herman, A. Jerome, Middleburg.
Herman, Percival. Kratzerville.
Kanawel, John F., Penns Creek.
Long, Dwight E., McKees Half Falls.
Longacre, William W., Mt. Pleasant Mills.
Miller, Edwin M., Beavertown.
Sampsell, James W., Penns Creek.
Shive, Simon D., McClure, R.D. 1
Tool, E. W., Freeburg.
Wagenseller, B. Frank, Selins Grove.
Wagenseller, Frank J., Selins Grove.
Wagenseller, Harry F., Selins Grove
Wagner, John O., Beaver Springs.
Williams, Edward C., Port Trevorton.

SOMERSET COUNTY SOCIETY.

(Organized October 29, 1889.)

President...Bruce Lichty, Meyersdale.
V. Pres.....George C. Berkheimer, Windber.
Sec. and
Reporter....H. Clay McKinley, Meyersdale.
Fin. Sec....Charles J. Hemminger, Rockwood.
Treasurer...Walter S. Mountain, Confluence.
Censors.....William T. Rowe, Meyersdale.
Henry I. Marsden, Somerset.
Henry A. Zimmerman, Hollsopple.
Com. on Pub.
Policy and
Legislation..E. F. Hemminger, Jr., Meyersdale.
George A. Noon, Listie.
William P. Shaw, Berlin.

Stated meetings at place selected on the third Tuesday of January, April, July and October. Election of officers in October and offices assumed at January meeting.

MEMBERS (36).

Berkheimer, George C., Windber.
Bittner, Charles R., Hooversville.
Bowman, Jacob F., Somerset.
Gardner, John A., Stoyestown.
Heffly, Robert, Berlin.
Hemminger, Charles J., Rockwood.
Hemminger, Edward F., Jr., Meyersdale.
Hemminger, Ross J., Somerset.
Hertzler, Henry, Jenners.
Keim, William W., Jerome.
Kimmell, Henry S., Ralphton.
Korns, Charles B., Somerset.
Large, Charles P., Meyersdale.
Lichty, Albert M., Elk Lick.
Lichty, Bruce, Meyersdale.
Livengood, Charles F., Boswell.
Louther, Snyder J. H., Somerset.
McIntyre, Milton U., Boswell.
McKinley, H. Clay, 13 Center St., Meyersdale.
McMillan, William T., Meyersdale.
Marsden, Henry Irving, Somerset.
Masters, George B., Berlin.
Moore, Harmar D., New Lexington.
Mountain, Walter S., Confluence.
Noon, George A., Listie.
Pollard, Richard T., Garrett.
Rowe, William T., Meyersdale.
Saylor, Clinton T., Rockwood.
Sass, Frank, Sandpatch.
Schock, W. H. H., Stoyestown.
Shaffer, Charles I., Jenners.
Shaffer, Fred B., Somerset.
Shaw, William P., Martin.
Smith, Bart James, Windber.
Staver, Maurice, 1729 N.Paxon St., Philadelphia (Philadelphia Co.).
Zimmerman, Henry A., Hollsopple.

SULLIVAN COUNTY SOCIETY.

(Organized August 9, 1907.)

President...Philip G. Biddle, Dushore.
V. Pres.....George C. Swope, Mildred.
William H. Randall, Laporte.
Secretary...William F. Randall, Dushore.
Treasurer...Justin L. Christian, Lopez.
Reporter....Arthur J. Bird, Overton.
Censors.....Carl M. Bradford, Forksville.
Justin L. Christian, Lopez.
Martin E. Herrmann, Dushore.
Com. on Pub.
Policy and
Legislation..Martin E. Herrmann, Dushore.
Justin L. Christian, Lopez.

Meetings shall be held in Dushore on the second Friday of January and July. Two other meetings shall be held in May and October at a time and place to be fixed by vote of the society or by the president and secretary.

MEMBERS (10).

Biddle, Philip G., Dushore.
Bird, Arthur J., Overton (Bradford Co.).
Bradford, Carl M., Forksville.
Christian, Justin L., Lopez.
Davis, Hugh K., Sonestown.
Herrmann, Martin E., Dushore.
Molyneux, Silas D., Sayre (Bradford Co.).
Randall, William F., Dushore.
Randall, William H., Laporte.
Swope, George Clarence, Mildred.

SUSQUEHANNA COUNTY SOCIETY.

(Organized November 19, 1838.)

President...A. Stryker Blair, Hallstead.
V. Pres.....Arthur J. Taylor, Hopbottom.
Secretary...Edward R. Gardner, Montrose.
Treasurer...John G. Wilson, Montrose.
Reporter....Calvin C. Halsey, Montrose.
Censors.....Fred S. Birchard, Montrose.
Arthur J. Taylor, Hopbottom.
Com. on Pub.
Policy and
Legislation..Dever J. Peck, Susquehanna.
Homer B. Lathrop, Springville.
Abram E. Snyder, New Milford.
Exec. Com.
and
Prog. Com..Abram E. Snyder, New Milford.
Edward R. Gardner, Montrose.
Dever J. Peck, Susquehanna.

Annual meeting in Montrose the first Tuesday of May. Other meetings, morning and afternoon sessions, first Tuesday of August, October and February at places designated at previous meetings.

MEMBERS (23).

Ainey, Albert J., Brooklyn.
Birchard, Fred S., Montrose.
Blair, A. Stryker, Hallstead.
Brundage, Albert T., Harford.
Caterson, Clarington W., Franklin Forks.
Condon, William J., Susquehanna.
Diller, Warren L., Springville.
Fitch, Alpheus B., Factoryville (Wyoming Co.).
Fry, Harvey M., Rush.
Gardner, Edward R., Montrose.
Goodwin, Frederick A., Binghamton, N. Y.
Halsey, Calvin C., Montrose.
Hines, Eben P., Great Bend.
Hooven, H. Hewitt, Harford.
Johnston, Charles A., Harford.
Lathrop, Homer B., Springville.
Miller, Morgan L., Susquehanna.
Park, William E., New Milford.
Peck, Dever J., Susquehanna.
Snyder, Abram E., New Milford.
Taylor, Arthur J., Hopbottom.
Vanness, Clarence N., Hallstead.
Wilson, John G., Montrose.

TIOGA COUNTY SOCIETY.

(Organized 1861. Reorganized January 24, 1896.)

President...Farnham H. Shaw, Wellsboro.
V. Pres.....William A. DeWitt, Blossburg.
Edwin E. Clark, Knoxville.
Secretary...Arland L. Darling, Lawrenceville.
Treasurer...Solomon P. Hakes, Tioga.
Reporter....Matta Berry Longwell, Wellsboro.
Censors.....Wentworth D. Vedder, Wellsboro.
Henry E. Caldwell, Wellsboro.
W. H. Hobbs, Blossburg.
Com. on Pub.
Policy and
Legislation..Henry E. Caldwell, Wellsboro.
Charles W. Sheldon, Tioga.
Farnham H. Shaw, Wellsboro.

Stated meetings quarterly, commencing in January, the third Friday of the month, at places selected. Election of officers in January.

MEMBERS (35).

Caldwell, Henry E., Wellsboro.
Clark, Edwin E., Knoxville.
Darling, Arland L., Lawrenceville.
Darling, Lewis, Lawrenceville.
Davies, John R., Blossburg.
DeWitt, William A., Blossburg Hosp., Blossburg.
Ditchburn, David T., Arnot.
Gaskill, Samuel A., Covington.
Gentry, Clarence C., R.D. 1, Greenville, S.C.
Gentry, John M., Stony Fork.
Genung, Benjamin W., Nelson.
Hakes, Solomon P., Tioga.
Harkness, Harry C., Mainesburg.
Hobbs, W. H., Blossburg.
Howland, Harry W., Gaines.
Humphrey, Wilmot G., Elkland.
Knight, Herbert W., Rutland.
Longwell, John P., Wellsboro.
Longwell, Matta Berry, Wellsboro.
Mastin, Frank, Westfield.
Mastin, Nathan W., Wellsboro.
Nye, Orrin S., Rutland.
Patterson, David A., Westfield.
Pritchard, Mahlon R., Westfield.
Secor, John C., Westfield.
Shaw, Farnham H., Wellsboro.
Sheldon, Charles W., Tioga.
Smith, Charles R., Tioga.
Smith, L. Chapman, Lawrenceville.
Treat, E. G., Pine City, N. Y.
Vedder, Wentworth D., Wellsboro.
Waters, David C., Covington.
Webb, Clarence W., Wellsboro.
Wheeler, Edith Flower, Mansfield.
Wood, Fred G., Mansfield.

UNION COUNTY SOCIETY.

(Organized July 27, 1904.)

President...Weber L. Gerhart, Lewisburg.
V. Pres.....Amos V. Persing, Allenwood.
Sec. and
Treasurer...Charles H. Dimm, Mifflinburg.
Reporter....Oliver W. H. Glover, Laurelton.
Censors.....William E. Metzger, Alvira.
David M. Sampsell, Winfield.
Amos V. Persing, Allenwood.
Com. on Pub.
Policy and
Legislation..William Leiser, Jr., Lewisburg.
Amos V. Persing, Allenwood.

Stated meetings in either Bucknell Hall or Bucknell Laboratory, Lewisburg, the third Thursday of April, July, October and December. Election of officers in December.

MEMBERS (13).

Dimm, Charles H., Mifflinburg.
Focht, Martin Luther, Lewisburg.
Gerhart, Weber L., Lewisburg.
Glover, Oliver W. H., Laurelton.
Gundy, Charles A., Lewisburg.
Hill, Albert Harrison, Mifflinburg.
Leiser, William, Jr., Lewisburg.
Metzger, William E., Alvira.
Persing, Amos V., Allenwood.
Sampsell, David M., Winfield.
Steans, Ralph, Lewisburg.
Thornton, Thomas C., Lewisburg.
Wilson, Harry M., New Berlin.

VENANGO COUNTY SOCIETY.

(Organized May 8, 1867.)

President...Samuel W. McDowell, Pittsville.
V. Pres.....Harry F. McDowell, Franklin.
Sec. and
Reporter....J. Irwin Zerbe, Franklin.
Treasurer...John F. Davis, Oil City.
Censors.....James B. Siggins, Oil City, 1 yr.
John B. Glenn, Franklin, 2 yrs.
W. A. Nicholson, Franklin, 3 yrs.
Com. on Pub.
Policy and
Legislation..John F. Davis, Oil City.
William G. Gilmore, Emlenton.
Frederick W. Brown, Franklin.

Stated meetings on the third Tuesday of January, March, May, July, September and November at 1 P.M.; the regular meetings at the Clubhouse, Reno. Two meetings each year are "outings" and are held at Monarch Park and the State Institution for Feeble Minded. Election of officers in January.

MEMBERS (54).

Black, Burton A., Polk.
Bolton, Earle W., Oil City.
Borland, John R., Franklin.
Bovard, Forrest J., Tionesta (Forest Co.).
Boyd, Irvin H., Oil City.
Bridenbaugh, Charles S., Emlenton.
Brown, Alexander M., Franklin.
Brown, Frederick W., Franklin.
Cooper, Clifford, Cooperstown.
Coulter, Clarence W., Oil City.
Crawford, John K., Cooperstown.
Cunningham, Paul R., Clintonville.
Davis, John F., Oil City.
Detar, Carm Y., Kellettville (Forest Co.).
Dille, George W., Cooperstown.
Dunn, Rose M., Franklin.
Dwyer, James E., Polk.
Gaynor, Henry B., Polk.
Gilmore, William G., Emlenton.
Glenn, John B., Franklin.
Goodwin, Andrew W., Oil City.
Hadley, John L., Oil City.
Hammond, Henry P., Franklin.
Irwin, Thomas A., Franklin.
Jackson, Frank B., Oil City.
Jobson, George B., Jr., Franklin.

Johnston, Wm. G., Titusville (Crawford Co.).
Kerr, Clinton S., Emlenton.
Kuhns, Edwin Augustus, Emlenton.
Lemmer, J. Conrad, 324 South Ave., Wilkinsburg (Allegheny Co.).
McBride, Lewis E., Franklin.
McDowell, Harry F., Franklin.
McDowell, Samuel W., Pittsville.
McKee, M. Ada, Oil City.
Magee, Frank E., Utica.
Magee, George W., Oil City.
Moore, Edwin W., 2777 Twenty-ninth St., R.D. 1, San Diego, Cal.
Mount, Winnie K., Oil City.
Murdoch, J. Moorehead, Polk.
Nicholson, William Addison, Franklin.
Sellew, Sylvester W., Oil City.
Serrill, W. W., Kellettville (Forest Co.).
Sharp, James Renwick, Oil City.
Siggins, James B., Oil City.
Spencer, Elwood P., Cooperstown.
Stone, Harry S., Franklin.
Strayer, Jacob P., Oil City.
Thompson, Ardus C., Franklin.
Thompson, Edgar V., Franklin.
Tyler, William C., Rouseville.
Waid, John M., Titusville (Crawford Co.).
Wilkins, John C., Oil City.
Wilson, Calvin M., Franklin.
Zerbe, J. Irwin, Franklin.

WARREN COUNTY SOCIETY.

(Organized 1871. Reorganized Sept. 19, 1881.)

President...John C. Russell, Warren.
V. Pres.....Robert B. Mervine, Sheffield.
Edwin D. McKee, Warren.
Sec., Treas.,
and Rept....Charles W. Schmehl, Warren.
Censors.....Alden B. MacDonald, Warren.
William H. Shortt, Youngsville.
Irving G. Hyer, Clarendon.

Stated meetings the first Tuesday after second Monday of each month. Election of officers in January.

MEMBERS (53).

Africa, Edwin S., Warren.
Baker, Willis M., Warren.
Ball, Michael V., Warren.
Beaty, Elizabeth S., Warren.
Bennett, George Everett, Corry (Erie Co.).
Bradshaw, George M. B., Sugar Grove.
Briggs, Erwin S., Tidioute.
Brown, Otis S., Warren.
Chapman, LeRoy E., Warren.
Christie, Milton H., Corry (Erie Co.).
Clancy, William Patrick, Warren.
Conant, Mary C., 401 West 118th St., New York.
Condit, George S., Tidioute.
Cowden, Ernest J., North Warren.
Darling, Ira A., State Hospital for Insane, North Warren.
Dunn, Joseph C., Tionesta (Forest Co.).
Durham, James R., Warren.
Finlayson, Alan, Warren.
Flatt, Anna H. S., Kinzua.
Flatt, Clayton C., Corydon.
Frantz, Christian J., Warren.
Haines, Franklin G., Warren.
Hamilton, John W., Warren.
Hawke, Wilfred W., Clifton Heights (Dela.Co.).
Hay, William H., Youngsville.
Hyer, Irving G., Clarendon.
Johansson, Alfred Herman, Warren.
Jones, Theodore, Youngsville.
Keller, David H., Russell.
Kelley, Ernest J., Chandlers Valley.
Kibler, Charles B., Corry (Erie Co.).
Knapp, Joseph J., Youngsville.
MacDonald, Alden B., Warren.
McKee, Edwin D., Warren.
Meals, Roy Clark, Columbus.
Mervine, Robert B., Sheffield.
Mitchell, Harry W., Warren.
Mitchell, Mary P., Warren.
Noeson, Frank T., Bear Lake.
Paige, Laverne D., Spring Creek.
Pryor, George T., Sheffield.
Robertson, William M., Warren.
Russell, Hiram B., Sheffield.
Russell, John C., Warren.
Schmehl, Charles W., Warren.
Shellenberger, Edward, State Hosp., Warren.
Shortt, William H., Youngsville.
Smith, Monroe T., Warren.
Stewart, Paul, Warren.
Stewart, Richard B., Warren.
Stoeckle, Charles H., Ludlow (McKean Co.).
VerMilyea, Charles H., Russell.
Weston, Paul, State Hospital, Warren.

WASHINGTON COUNTY SOCIETY.

(Organized May 19, 1855.)

President...Charles C. Cracraft, Claysville.
V. Pres.....William D. Teagarden, Washington.
Sec. and
Treasurer...Albert E. Thompson, Washington.
Reporter....Joseph W. Hunter, Charleroi.
Librarian...Richard A. Stewart, Washington.
Censors.....John C. Kelso, Canonsburg.
William R. Thompson, Washington.
John N. Sprowls, Claysville.
Com. on Pub.
Policy and
Legislation..Collin R. Weirich, Washington.
Charles B. Wood, Monongahela.
J. Frank Donahoo, Washington.

Stated meetings in rooms of the society, Reed Building, Washington, second Tuesday of every month, except July and August, at 2:30 P.M.

MEMBERS (130).

Alexander, William Horner, Canonsburg.
Ashbrook, Robert L., Washington.
Bell, David Major, 145 Center St., Canonsburg.
Beveredge, David, Washington.
Bigger, William Martin, Bentleysville.
Booth, Alexander Nelson, Bentleysville.
Bowes, Simon C., Canonsburg.
Braden, Leroy W., Ten Mile.
Brehmer, Harrison L., 497 W. Hellam St., Washington.
Brennan, James Lennon, Manifold.
Burns, William James, Room 424 Washington Trust Bldg., Washington.
Carey, John Herschel, Prosperity.
Cashman, Thomas Francis, Washington.
Cobb, Freeman Floyd, Marianna.

Colier, Ewing L., Roscoe.
Conger, George R., Taylorstown.
Conner, Robert Evert, Hickory
Corwin, James Howell, Washington.
Cowan, Walter H., Donora.
Cracraft, Charles Clinton, Claysville.
Dague, Samuel Nicholas, Canonsburg, R.D. 1.
Davis, Alden Ottice, Charleroi.
Day, Minor H., Donora.
Dearth, Olie Post, Washington.
Dodd, Cephas T., Washington.
Dodd, William Lincoln, Amity.
Dickson, William R., McDonald.
Donahoo, J. Frank, Washington
Dunkle, Gaily Barr, Washington.
Eagleson, Robert M., Fredericktown.
Edwards, David Henry, Washington.
Emery, Boyd Alfred, Eighty-four, R.D. 1.
Enos, J. Clive, Charleroi.
Faddis, Thomas McCleland, Charleroi.
Farquhar, Ralph Claude, Monongahela.
Frantz, George B., Coal Center.
French, Edward Ellsworth, Ellsworth.
Geddis, Charles Patterson, Washington.
Gormley, James Alaysus, Meadow Lands.
Hains, Dempsey D., Allenport.
Harsha, Charles Floyd, Canonsburg.
Hart, William Ernest, Washington.
Hays, George K., Monongahela.
Hazlett, Edgar Marion, Washington.
Hindman, Audley Oliver, Cross Creek.
Honesty, Leonard C., Washington.
Hunter, Joseph William, Charleroi.
Irwin, Joseph Buchanan, 459 Jefferson Ave., Washington.
Johnson, Elbin J., Claysville.
Kelly, George M., Washington.
Kelso, John Calvin, Canonsburg.
Kerchner, Louis F., Washington.
Kirby, Harry J., Cokeburg.
Knox, J. Campsey, 420 Trust Bldg., Washington.
Knox, Frank Leslie, Claysville.
Kyle, Edward V., Washington.
Lacock, Horace Mortimer, West Finley.
Lacock, Samuel Allen, Canonsburg.
Larimer, Parry B., Scenery Hill.
LaRoss, William Asher, McDonald.
Letherman, John A., California.
Lewis, David H., Washington.
Lewis, Orville Garret, 841 Jefferson Ave., Washington.
Lewis, William H., Donora.
Ley, Philip A., Donora.
Linley, Collin M., Washington.
Linn, Charles Francis, Monongahela.
Lutz, Loyal G., Roscoe.
Lynch, Harry Pierce, Morganza.
McCall, Willis A., Scenery Hill, R.D. 3.
McCarrell, David Leander, Hickory.
McCullough, W. J. L., 26 East Maiden St., Washington.
McDonough, O. T., Washington.
McElroy, Joseph, Hickory.
McKay, Edwin M., Charleroi.
McKee, George Leshel, Burgettstown.
McKennan, James Wilson, Washington.
McMurray, John Boyd, Washington.
McNinch, James R., West Alexander.
Martin, William C., California.
Martin, William Douglass, Dunns Station, R.D.2.
Maurer, Joseph Morgan, Washington.
Maxwell, John Ralph, Washington.
Megahan, Calvin Roy, Eldersville.
Moore, Loyal Hamilton, Houston.
Murray, Uriah Burton, Washington.
Nesbit, John Calvin, Burgettstown.
Parry, Roger Sammons, 75 Main St., Washington.
Patterson, Frank Iams, 188 Duncan Ave., Washington.
Patterson, Guy Egbert, Washington.
Patterson, John A., Washington.
Paxton, Cornelius P., California.
Pridgeon, Lilly G. H., Canonsburg.
Prowett, Homer Persell, Washington.
Ramsey, George W., Lone Pine (Washington, R.D. 4).
Repman, Harry Joseph, Charleroi.
Reynolds, John M. C., Washington.
Riddle, William Van Eman, Burgettstown.
Runion, A. LeGrand, Canonsburg.
Sargent, Larry Dodd, Beallsville.
Scott, Jesse Yeager, Washington.
Shidler, Walter J., Canonsburg, R.D. 1.
Shuster, Alfred Richard, Finleyville.
Snodgrass, Henry Lane, Buffalo.
Spahr, Robert Argyle, West Brownsville.
Sprowls, Jesse Ada, Donora.
Sprowls, John Nelson, Claysville.
Sprowls, William Wilson, Houston.
Stahlman, Frederick C., Charleroi.
Stewart, Richard A., 26 E. Maiden St., Washington.
Stewart, Robert S., Washington.
Stewart, Robert Vance, Monongahela.
Stunkard, Harry, Norfolk, Va.
Teagarden, William David, Washington.
Thompson, Albert Ely, Washington.
Thompson, William Reed, Washington.
Throckmorton, Charles Benton, Canonsburg.
Throckmorton, William S., Canonsburg.
Timmons, Joseph M., West Alexander.
Tucker, Gabriel F., Canonsburg.
Veatch, Nicholas Selby, California.
Vieslet, Victor P., Charleroi.
Weirich, Collin Reed, Washington.
Weygandt, William Wilson, Thomas.
Wilson, James H., Coal Center, R.D. 2.
Wilson, Thomas Dent Mutter, Washington.
Wolfe, Russell Wilson, Taylorstown.
Wood, Charles Bennett, Monongahela.
Woods, George Brown, Washington.
Yarnell, Charles Wesley, California.

WAYNE COUNTY SOCIETY.

(Organized May 25, 1905.)

President. . .Robert W. Brady, Honesdale.
V. Pres. . . . .Harry B. Ely, Honesdale.
Edward W. Burns, Honesdale.
Sec. and
Reporter. . . .Frederick A. Lobb, Hawley.
Treasurer. . .Patrick W. Griffin, Honesdale.
Censors. . . . .Edward W. Burns, Honesdale.
Harry B. Ely, Honesdale.
Fred W. Powell, Honesdale.
Com. on Pub.
Policy and
Legislation. .Alfred H. Catterall, Hawley.
William T. McConvill, Honesdale.
Oscar J. Mullen, Hamlin.

Stated meetings held the third Thursday of May, July, October and December at location decided upon at previous meeting. Annual meeting in May.

MEMBERS (31).

Appley, William W.,Cochecton,Sullivan Co.,N.Y.
Bang, Edward Otto, South Canaan.
Bang, Sarah Allen, South Canaan.
Bennett, John E., Starrucca.
Brady, Robert W., Honesdale.
Burns, Edward Ward, Honesdale.
Catterall, Alfred H., Hawley.
Cook, Alexander Marshall, South Canaan.
Corson, Charles G., Rileyville.
Ely, Harry B., Honesdale.
Frisbie, Frank C., Equinunk.
Gavitte,.Edward B., White Mills.
Griffin, Patrick F., Honesdale.
Kenworthey, William B., Milford (Pike Co.).
Lobb, Frederick A., Hawley.
McCafferty, George W.,Jr., Fairview (Hospital).
McClellan, Henry Joseph, Callicoon, Sullivan Co., N. Y.
McConvill, William T., Honesdale.
Mullen, Oscar J., Hamlin.
Nielsen, Louis B., Honesdale.
Noble, Homer C., Waymart.
Parsells, Charles Wilson, Narrowsburg, Sullivan Co., N. Y.
Peterson, Pierson B., Honesdale.
Powell, Fred W., Honesdale.
Rodman, George T., Hawley.
Simons, Arthur J., Newfoundland.
Smith, Frank I., Shohola (Pike Co.).
Stevens, Atherton B., 618 Harrison Ave., Scranton (Lackawanna Co.).
Stevens, William A., 2101 N. Washington Ave., Scranton (Lackawanna Co.).
Voigt, Arno C., Hawley.
White, Harry Cummings, Ariel.

WESTMORELAND COUNTY SOCIETY.

(Organized November 15, 1859.)

President...William H. Taylor, Irwin.
V. Pres.....Nathaniel E. Silsley, Scottdale.
Wilder J. Walker, Greensburg.
Secretary...Myers W. Horner, Mt. Pleasant.
Asst. Sec. and Rept....James P. Strickler, Scottdale.
Treasurer...Thomas St. Clair, Latrobe.
Censors.....L. B. Raymond Smith, Jeannette.
Charles D. Ambrose, Ligonier.
Robert P. McClellan, Irwin.
Com. on Pub. Policy and Legislation..Thomas P. Cole, Greensburg.
Thomas St. Clair, Latrobe.
Levi T. Gilbert, Scottdale.
L. B. Raymond Smith, Jeannette.
Bert Haughwout, Derry.

There shall be twelve meetings of the society, one each month. All will be held in Greensburg in City Hall, at 2 P.M. on the first Tuesday.

MEMBERS (116).

Abatticchio, Nicholas, Latrobe.
Ambrose, Charles D., Ligonier.
Ambrose, Jacob T., Ligonier.
Ankney, Edward G., Pleasant Unity.
Aspey, Lewis S., Smithton.
Barkley, John W., Ligonier.
Blackburn, Arthur Byron, Latrobe.
Blackburn, Ida E., Greensburg.
Boale, John A., Vandergrift Heights.
Boehm, George, Arona.
Bortz, Walter M., Greensburg.
Brown, J. Logan, Pleasant Unity.
Brown, Walter H., Youngwood.
Burkholder, John Lewis, 401 East Washington St., Mt. Pleasant.
Byers, W. Craig, Webster.
Carnahan, Wm. J., 202 Washington St., Vandergrift.
Caven, Alva H., Youngwood.
Clifford, Edward M., Greensburg.
Cochran, Albert M., Salina.
Cole, Thomas P., Greensburg.
Cope, John C., Greensburg.
Cramer, Morgan J., Monessen.
Crawford, John S., Greensburg.
Day, Howard W., Monessen.
Dickson, George M., Adamsburg.
Easter, Daniel M., Greensburg.
Emerson, Howard B., Yukon.
Engel, Oliver C., Aliquippa (Beaver Co.).
Everhart, Edgar S., Crab Tree.
Ewing, Alfred E., Youngstown.
Ewing, John H., Delmont.
Farquhar, David Clifford, Monessen.
Fennell, William L., Salina.
Ferguson, Rutherford Hayes, Herminie.
Fetter, William W., Scottdale.
Fichthorn, Lewis Leitzell, Avonmore.
Gilbert, Levi T., Scottdale.
Gillis, George Hiram, Youngwood.
Gray, Samuel Brown, Scottdale.
Greaves, John D., New Alexandria.
Griffith, Martin E., Monessen.
Heath, Robert Elzie, Jacobs Creek.
Herron, Thomas B., Monessen.
Highberger, Harry L., Madison.
Horner, Myers Worman, Mt. Pleasant.
Haughwout, Bert, Derry.
Hunter, Robert Jones, Greensburg.
Hunter, William D., Monessen.
Hutton, David S., Smithton.
Katherman, Frank C., Whitney.
Kline, William J. K., Greensburg.
Klingensmith, Thomas A., Jeannette.
Krebs, A. Bryan, Bolivar.
Kreger, Oliver J., Monessen.
Lawhead, James H., West Newton.
Lawrence, J. Stuart, Greensburg.
Leatherman, Daniel I., 215 Pennsylvania Ave., Greensburg.
Leatherman, Kate W., Greensburg.
Love, Hugh W., Harrison City.
McAdoo, Elmer E., Ligonier.
McClellan, Robert P., Irwin.
McCormick, R. E. Lee, Irwin.
McDowell, William J., Scottdale.
McKee, Claude W., Scottdale.
McMurray, H. Albert, Youngwood.
McNish, George T., Alverton.
Marsh, Florence L., Mt. Pleasant.
Marsh, William A., Mt. Pleasant.
Miller, George W., Greensburg.
Miller, Wesley W., Jeannette.
Mitchell, Lou Murray, Pricedale.

Montgomery-Marsh, Mary L., Mt. Pleasant.
Moran, Thomas W., Latrobe.
Nealon, Stephen W., Latrobe.
Ober, Bert Frank, Latrobe.
Ober, Irwin J., Greensburg.
Offutt, Lemuel, Greensburg.
Painter, Theodore P., United.
Patton, Jas. M., 147 Jefferson Ave., Vandergrift.
Pierce, Carl F., Greensburg.
Piper, Ellsmer Landis, Export.
Poole, Charles H., Ruffsdale.
Porter, Clifford C., Greensburg.
Porter, Joseph A., Penn Station.
Portser, Iden M., Greensburg.
Potts, William Joseph, Greensburg.
Prothero, Harold Ney, Jeannette.
Reidt, Urban H., Jeannette.
Ringer, Joseph H., Jeannette.
Robinson, John Q., Jr., West Newton.
Rugh, Carroll Bancroft, New Alexandria.
St. Clair, Thomas, Latrobe.
Shirey, Charles A., Manor.
Silsley, Nathaniel Eldridge, Scottdale.
Singer, John J., Greensburg.
Sloan, Charles M., Madison.
Sloterbeck, Edgar B., Monessen.
Smith, L. B. Raymond, Jeannette.
Smith, Louis Trauger, Trauger.
Smithgall, Melvin H., Export.
Snyder, Charles E., Greensburg.
Speer, Ross H., Vandergrift.
Stahlman, Joseph C., Vandergrift.
Stauffer, Harry J., Jeannette.
Stockberger, Harry J., Claridge.
Strickler, Albert W., Scottdale.
Strickler, James P., Scottdale.
Taylor, Charles E., Irwin.
Taylor, William H., Irwin.
Walker, D. Allison, South West.
Walker, Wilder J., Greensburg.
Watkins, Benjamin M., New Derry.
Wilson, Arthur R., Monessen.
Wilson, Louis F., 215½ S.Main St., Greensburg.
Wilson, Robert L., Jeannette.
Wright, Samuel S., Pleasant Unity.

WYOMING COUNTY SOCIETY.

(Organized August 11, 1903.)

President...A. D. Tewksberry, Tunkhannock.
Sec., Treas.
and Rept....Herbert L. McKown, Tunkhannock.
Censors.....Wm. L. Lazarus, Tunkhannock.
Walter M. Cress, Tunkhannock.
Com. on Pub.
Policy and
Legislation..Van C. Decker, Nicholson.
Bert E. Bidleman, Tunkhannock.

Annual meeting in Tunkhannock on the second Wednesday in January. Other meetings, not less than two, to be held as determined by vote of the society.

MEMBERS (17).

Bardwell, Frank J., Tunkhannock.
Beaumont, William B., Laceyville.
Bidleman, Bert E., Tunkhannock.
Boston, Clarence L., Center Moreland.
Cress, Walter M., Tunkhannock.
Decker, Van C., Nicholson.
French, Kennard J., Factoryville.
Harrison, George M., Meshoppen.
Kinner, George M., North Mehoopany.
Lazarus, William W., Tunkhannock.
McKown, Herbert L., Tunkhannock.
Merritt, T. Grey, Mehoopany.
Niles, Ralph M., Nicholson.
Rauch, George H., Noxen.
Saxer, G. Philip, Fleetville (Lackawanna Co.).
Sturdevant, Dennis W., Laceyville.
Tewksberry, Anderson Dana, Tunkhannock.

YORK COUNTY SOCIETY.

(Organized May 11, 1873. Incorporated April 15, 1901.)

(York is the post office when street address only is given.)

President...L. H. Fackler, 451 W. Market St.
V. Pres.....L. S. Weaver, 11 E. Market St.
Francis R. Wise, 3 E. Market St.
Sec. and
Reporter....Julius H. Comroe, 259 S. George St.
Treasurer...C. W. Eisenhower, 147 S. George St.
Librarian...Israel H. Betz, Pine and King Sts.
Censors.....J. Nelson Dunnick, Stewartstown.
Benj. F. Spangler, 126 N. Duke St.
Arthur B. Shatto, 220 S. George St.
Trustees....Joseph H. Bittinger, Hanover.
Horace M. Alleman, Hanover.
Isaac C. Gable, 46 S. Beaver St.
Com. on Pub.
Policy and
Legislation..Julius H. Comroe, 259 S.George St.
Charles Rea, 107 E. Market St.
Alfred A. Long, 34 S. Beaver St.

Stated meetings in York, in Colonial Hotel parlor, first Thursday of each month, at 1 P.M. Election of officers in January. Library third floor of Court House.

MEMBERS (96).

Alleman, Horace M., Hanover.
Atkins, Joseph C., Red Lion.
Bacon, William F., 50 S. George St.
Bahn, George W., Spring Forge.
Barshinger, Martin L., 308 E. Market St.
Bennett, John H., 38 N. Beaver St.
Betz, Israel H., Pine and King Sts.
Bittinger, Joseph H., Hanover.
Bowles, George W., 112 W. King St.
Brodbeck, John H., Codorus.
Brose, George W., 415 W. Market St.
Butz, Raymond E., 103 E. Market St.
Comroe, Julius H., 259 S. George St.
Danner, William D.,Glenville (Porters Sidling).
Delle, Oscar A., York Hospital.
Dice, Laura J., 151 S. Queen St.
Dunnick, J. Nelson, Stewartstown.
Dunnick, Milton Carl, Shrewsbury.
Eisenhower, Charles W., 147 S. George St.
Fackler, Lewis H., 451 W. Market St.
Frec, Evans Murphy, Stewartstown.
Gable, Isaac C., 46 S. Beaver St.
Galbreath, J. Thomas, Delta.
Gerry, Carl H., Shrewsbury.
Gilbert, John, 373 W. Market St.
Gress, Henry V., Manchester.
Gross, Jacob M., 706 W. Market St.
Grove, Austin M.

Hamme, Curtis J., Dover.
Harbold, John T., Yorkana, R.D. 12.
Hartman, Lawton M., 148 S. George St.
Hawkins, Vallie, Fawn Grove.
Hildebrand, Charles G., Loganville.
Hildebrand, Robert A., Glen Rock.
Hoke, Martin, Spring Forge.
Holtzapple, George E., George and Princess Sts.
Hoover, Benjamin A., Wrightsville.
Howard, James H., 236 S. George St.
Hyson, J. Miller, Red Lion.
Jessop, Roland, 500 W. Market St.
Jones, Harry H., 743 E. Market St.
Kain, John B., 414 E. Market St.
Keagy, Charles A., Hanover.
King, Harry B., 257 E. Market St.
Klinedinst, J. Ferdinand, 220 S. George St.
Krout, G. Elmer, Jacobus.
Lawson, Thomas A., Dallastown.
Lecrone, Harris R., 305 W. Market St.
Long, Alfred A., 34 S. Beaver St.
Lutz, J. Fletcher, Glen Rock.
McConkey, Frank Vance, 237 S. Pine St.
McKinnon, Mathew J., 49 N. Queen St.
MacDowell, S. Ira, George and King Sts.
Mann, Enos S., Dallastown.
May, Charles H., 1207 N. George St.
May, James C., Manchester.
Meisenhelder, Edmund W., 342 W. Market St.
Meisenhelder, Edmund W., Jr., 11 E. Market St.
Meisenhelter, John, Hanover.
Melsheimer, John A., Hanover.
Miller, Joseph S., 3 E. Market St.
Minnich, William H., Dallastown.
Murphy, Jerry C., York Haven.
Myers, Alfred, 333 S. Duke St.
Norris, Franklin J., Hanover, R.D. 2.
Overmiller, N. Allen, East Prospect.
Pfaltzgraff, Samuel K., 440 W. Market St.
Porter, John W., New Park.
Posey, Benjamin F., 1342 Jerome St., Philadelphia (Philadelphia Co.).
Posey, David C., Chanceford.
Ramsay, W. Warren, Delta.
Rea, Charles, 107 E. Market St.
Shatto, Arthur B., 220 S. George St.
Shearer, Niles H., 16 N. George St.
Sieling, Jacob H., 625 W. Market St.
Small, J. Frank, 161 E. Market St.
Smith, Charles H., 507 W. Philadelphia St.
Snyder, Francis J., 342 S. George St.
Spahr, Charles E., 14 W. Market St.
Spangler, Benjamin F., 126 N. Duke St.
Stambaugh, Elmer S., Thomasville.
Stick, Edward W., Hanover.
Stick, Wesley C., Hanover.
Strack, David, 1557 W. Market St.
Venus, Charles H., 817 E. Market St.
Wallace, Nathan C., Dover.
Weakley, William S., 107 N. George St.
Weaver, Louis S., 11 E. Market St.
Wentz, Alexander C., Hanover.
Wentz, Parker N., 705 W. Princess St.
Wertz, Theodore H., Hanover.
Williams, Louis V., Mt. Wolf.
Wise, Francis Roman, 3 E. Market St.
Yagle, George N., Red Lion.
Yagle, James L., New Freedom.
Zech, Harry W., 1100 W. Market St.

LIST OF PRESIDENTS OF THE STATE SOCIETY, 1848-1912.

*1848.	Samuel Humes,	Lancaster Co.
*1849.	Samuel Jackson,	Philadelphia Co.
*1850.	Wilmer Worthington,	Chester Co.
*1851.	Charles Innes,	Northampton Co.
*1852.	Hiram Corson,	Montgomery Co.
*1853.	John P. Heister,	Berks Co.
*1854.	Jacob M. Gemmill,	Huntingdon Co.
*1855.	James S. Carpenter,	Schuylkill Co.
*1856.	Rene La Roche,	Philadelphia Co.
*1857.	John L. Atlee,	Lancaster Co.
*1858.	Smith Cunningham,	Beaver Co.
*1859.	D. Francis Condie,	Philadelphia Co.
*1860-61.	Edward Wallace,	Berks Co.
*1862.	George F. Horton,	Bradford Co.
*1863.	Wilson Jewell,	Philadelphia Co.
*1864.	J. D. Ross,	Blair Co.
*1865.	William Anderson,	Indiana Co.
*1866.	James King,	Allegheny Co.
*1867.	Traill Green,	Northampton Co.
*1868.	John Curwen,	Dauphin Co.
*1869.	William M. Wallace,	Erie Co.
*1870.	Samuel D. Gross,	Philadelphia Co.
*1871.	J. S. Crawford,	Lycoming Co.
*1872.	A. M. Pollock,	Allegheny Co.
*1873.	S. B. Kiefer,	Cumberland Co.
*1874.	Washington L. Atlee,	Philadelphia Co.
*1875.	Crawford Irwin,	Blair Co.
*1876.	Robert B. Mowry,	Allegheny Co.
*1877.	D. Hayes Agnew,	Philadelphia Co.
*1878.	J. L. Stewart,	Erie Co.
*1879.	Andrew Nebinger,	Philadelphia Co.
*1880.	John T. Carpenter,	Schuylkill Co.
*1881.	Jacob L. Ziegler,	Lancaster Co.
1882.	William Varian,	Crawford Co.
*1883.	Henry H. Smith,	Philadelphia Co.
*1884.	Ezra P. Allen,	Bradford Co.
*1885.	E. A. Wood,	Allegheny Co.
*1886.	Rees Davis,	Luzerne Co.
*1887.	Richard J. Levis,	Philadelphia Co.
*1888-89.	J. B. Murdoch,	Allegheny Co.
*1890.	Alexander Craig,	Lancaster Co.
1891.	Samuel L. Kurtz,	Berks Co.
1892.	Henry L. Orth,	Dauphin Co.
1893.	H. G. McCormick,	Lycoming Co.
1894.	John B. Roberts,	Philadelphia Co.
1895.	William S. Foster,	Allegheny Co.
1896.	E. E. Montgomery,	Philadelphia Co.
*1897.	W. Murray Weidman,	Berks Co.
*1898.	Webster B. Lowman,	Cambria Co.
1899.	George W. Guthrie,	Luzerne Co.
1900.	Thomas D. Davis,	Allegheny Co.
1901.	Francis P. Ball,	Clinton Co.
1902.	William M. Welch,	Philadelphia Co.
*1903.	William B. Ulrich,	Delaware Co.
1904.	Adolph Koenig,	Allegheny Co.
1905.	William H. Hartzell,	Lehigh Co.
1906.	Isaac C. Gable,	York Co.
1907.	William L. Estes,	Northampton Co.
1908.	George W. Wagoner,	Cambria Co.
1909.	Theodore B. Appel,	Lancaster Co.
*1910.	John B. Donaldson,	Washington Co.
1911.	James Tyson,	Philadelphia Co.
1912.	Lewis H. Taylor,	Luzerne Co.

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*Deceased.

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ADDRESS.

DR. BENJAMIN RUSH, THE PIONEER INVESTIGATOR OF THE EFFECTS OF ALCOHOL AND TOBACCO ON MAN.

BY HENRY O. MARCY, A.M., M.D., LL.D.,
Boston, Mass.

(Read before the American Society for the Study of Alcohol and Other Narcotics, at Washington, D. C., December 10, 1912.)

In the strenuous life of the present, it is oftentimes well that we pause and make special study of historic events and of the men who, under the stimulus of special demand, developed characters worthy of analysis and emulation. Although men who specialize in a calling or profession should naturally become more eminent in their vocation, it will be found that such men usually have a breadth of view and knowledge pertaining to common interests far greater than the average individual. Indeed, it is generally true that the man of special attainment and devotion to his profession becomes much the more efficient because of his general knowledge.

It seems the more fitting that I should ask your consideration of the times and character of Dr. Benjamin Rush of Philadelphia, since he was, in a large degree, the recognized exponent of medical knowledge in America during the period of his activities and was one of the first of the medical profession to have studied specially the effect of alcohol and tobacco as drugs, and to emphasize the physical injuries resulting therefrom.

Of the ancestry of Dr. Rush I can furnish nothing more fitting or interesting than a letter written by him, shortly before his death, to his intimate friend John Adams, ex-president of the United States.[1]

"I was lately called to visit a patient in that neighborhood and, having with me my youngest son, I thought I would avail myself of the occasion to visit the farm on which I was born and where my ancestors for several generations had lived and died. In approaching it, I was agitated in a manner I did not expect. The access was altered, but everything around was nearly the same as in the days of my boyhood, at which time I left it. The family received me kindly and discovered a disposition to satisfy my curiosity, and gratify my feelings. I asked permission to conduct my son upstairs to see the room in which I drew my first breath, and made my first unwelcome noise in the world, and where first began the affectionate cares of my beloved and excellent mother. I next asked for a large cedar tree which once stood before the door, planted by my father's hand. It had been converted into the pillars of the piazza. Filled with emotion, I embraced the one nearest me. I next inquired for the orchard planted by the same hand, and was conducted to an eminence behind the house, where I saw a number of apple trees which still bore fruit, to each of which I felt something like the affection of a brother. The building, which is of stone, bears marks of age and decay. On one of the stones, I discovered the letters J. R. Before the house flows a small but deep creek, abounding in pan-fish. The farm consists of ninety acres, in a highly cultivated state. The owner did not want to sell, but I begged if he ever should incline to dispose of it, to make me, or one of my surviving sons, the first offer. While I sat in its common room, I looked at its walls and thought how often they had been made vocal by my ancestors, to conversations about wolves, bears, and snakes, in the first settlement; afterwards, about cows and calves, colts and lambs; and at all times with prayers and praises, and chapters read audibly from the Bible, for all who had inhabited it of my family were pious people, chiefly of the sect of Quakers and Baptists. On my way home, I stopped to view a family graveyard, in which were buried three, and a part of four successive generations, all of whom were the descendants of Captain John Rush, who, with six sons and three daughters followed William Penn to Pennsylvania, in 1683. He had been a captain of a troop of horse under Oliver Cromwell . . . . I retain as his relics, his sword, watch, and Bible leaf, on which are inscribed, in his own hand, his marriage, and children's births and names. My grandfather, James Rush, has his gravestone and inscription in the aforesaid graveyard.

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[1] Watson's Annals of Philadelphia.

"While considering this repository of the dead, then holding my kindred dust, my thoughts ran wild, and my ancestors seemed to stand before me in their homespun dresses, and to say, 'What means this gentleman by thus intruding upon our repose?' and I seemed to say, 'Dear and venerable friends, be not disturbed. I am one who inherits your blood and name, and have come here to do homage to your Christian and moral virtues; and truly I have acquired nothing from the world, though raised in fame, which I so highly prize as the religious principles I inherited from you; and I possess nothing that I value so much as the innocence and purity of your character.' "

The how and the why in the development of a life is always an interesting study. The father of John Rush is described as having been a man of gentle spirit and his honesty was quoted in proverbial fashion. He died when Benjamin was only six years of age. The younger brother Jacob studied law and became an eminent judge in Philadelphia. An unmarried sister, the only other member of the family, died in 1793. The mother died in 1795 in the doctor's house. Her request was to be buried by her husband; now dead over forty years, "He was an angel to me." The mother's one object in life was the education of her children and although of limited means she labored most earnestly in its accomplishment. When Benjamin was nine years old, she placed him in a small academy in Nottingham, Maryland, under the supervision of the Rev. Dr. Finley, her brother-in-law. He remained with him five years and became so proficient in study that he was admitted to Princeton in the junior class and graduated with honor at the early age of fifteen. Dr. Finley, who had a deep interest in the boy, persuaded him to study medicine, and he became the student of Dr. John Redman, an eminent physician of Philadelphia. It will be recalled that at this early period medicine was taught by entering the family of a physician in a sort of apprenticeship. He remained with Dr. Redman for six years. When twenty-one years of age, in 1766, he made the then exceptional journey to Europe and became the pupil of the great clinical teacher Cullen, in the University of Edinburgh. At this time the university held a leadership in medical instruction. He graduated two years later. When in Edinburgh he made the acquaintance of Dr. Witherspoon and, through his influence, Dr. Witherspoon accepted the presidency of Princeton College.

This important president soon announced himself an American patriot and was a member of the Congress of 1776, where, with Rush, he signed the Declaration of Independence as a delegate from New Jersey. It is stated that Dr. Benjamin Franklin, then residing in London, became interested in the young physician and induced him to accept funds sufficient to spend a season of study in Paris. The Medical College of Philadelphia had been organized only four years prior to this, and, upon Dr. Rush's return to Philadelphia in 1769, he brought with him a chemical apparatus presented to the college by Thomas Penn, one of the proprietors of Pennsylvania.

Dr. Rush was elected professor of chemistry, and his colleagues were John Morgan, William Shippen, Adam Kuhn and Thomas Bond. His first publication appeared in 1771, and through the Benevolent Society of Friends, by essays on slavery and articles to young men on temperance and right living, he greatly widened his influence. In 1774, only five years after his return, he delivered before the Philosophical Society the annual oration. It was a study of the American Indians with a comparison of their diseases and remedies with those of civilized nations.

Dr. Rush was convinced that the outdoor life of the men, together with their temperate habits, produced an athletic development which was quite superior to that of the average American youth, especially of those living in the larger towns. He pointed out that one of the dangers resulting from civilized development was the imitation of European nations, which produced a spirit of luxury and idleness. He made a careful investigation concerning the effects of alcohol upon the human system, and this was probably the first publication upon the subject in Philadelphia. His more elaborate studies upon the effects of spiritnous liquors were published in 1790, to which, later, I shall make reference.

The growing discontent of the colonies, caused by the oppression of the mother country, became the subject which chiefly occupied the minds of the colonists. We can readily understand why the young physician threw himself with all the ardor of his nature into the contest.

The spirit of the captain under Cromwell dominated his descendants. The influence of our great Franklin helped to shape Dr. Rush's convictions. It is stated that, while yet in London, as a member of a debating society, he distinguished himself by his manly defense of the colonies, and now we find him writing in a forceful way in favor of our colonial rights, which writings were published in the periodicals of the day.

As chairman of a committee of the Provincial Congress of Pennsylvania, he reported upon the great question then under discussion, in favor of Congress declaring the colonies independent of the mother country. This report was probably written by Dr. Rush, and it includes the chief points which are incorporated in the Declaration of Independence.

Five members of Congress from Pennsylvania were in favor of postponing action and resigned on this account, when Dr. Rush and four others were appointed to fill their places. Thus he entered Congress as the prime mover for declaring that the colonies should demand an absolute independence of the mother country, really becoming a member of Congress that he might be a signer of this important document, knowing well the responsibilities thereby incurred. It was understood that this corner stone of our liberties must be set and cemented in the blood of a generation, and the importance of the measure is exemplified by Franklin's statement that we must now "hang together, or we shall all hang separately."

In 1776 Dr. Rush married Julia, daughter of Richard Stockton of Princeton who was also a delegate to Congress and a signer of the Declaration of Independence. This marriage was beneficial to Dr. Rush for many reasons. Before the close of 1776 he entered the army as surgeon-general of the middle department, and later was made physician-general. He resigned from the army after a little more than a year of service and returned to Philadelphia. He gave as reason for resignation that his sense of duty to the army led him to complain of wrongs in a certain department, and that he had made criticisms of Washington. A letter believed to have been written by Dr. Rush, dated at Yorktown, January 12, 1778, was a subject of much controversy. Dr. Rush's patriotism and loyalty to his country was never questioned, but it was believed he felt that General Gates was the more efficient soldier. As is well known, there were many at this time who showed great dissatisfaction with Washington, charging him with want of energy and with favoritism. This, very naturally, practically closed Dr. Rush's public career and prevented his becoming in a special way a leading member of the government. It is stated, however, that he and Washington afterward became friends and his intimacy ripened into warm friendship with the leading men of the country. In a biographical memorial by Samuel Jackson is the following interesting incident:—

> "Among the evils of war, one of the most affecting is that friends must sometimes face each other on the field. While walking over the ground after the battle of Princeton, Rush recognized in a dead officer the countenance of one who had been very dear to him. Captain Leslie, son of the Earl of Levan, attended lectures with him in Edinburgh, and often invited him to his father's seat in the country, where, in the confidence of friendship, they often descanted on the coming troubles. He pressed Leslie to consider him as a friend, should he be sent to America and any misfortune befall him. On these terms they parted, to meet no more till this fatal day. Had Leslie been yet alive, they might have renewed the meeting of Glaucus and Diomedes before the walls of Troy, and like these, they might have tenderly adverted to the paternal hospitality. Instead of this there was found in Leslie's pocket, a letter of friendship he had written to Rush the previous day. Rush had the body of his friend carried away on their march to Pluckemin, and buried in the churchyard with military honors. A relative of Leslie visited the grave after some years, with the intention of placing a monument, but he found that Rush had done the work, and he retired, as he says, with tears of gratitude. This monument, yet unimpaired by time, bears the following inscription, which does honor both to Leslie and to the grateful spirit of Rush,—"In memory of the Hon. Captain William Leslie, of the 17th British Regiment, son of the Earl of Leven, in Scotland. He fell January 3rd, 1777, aged twenty-six years, at the battle of Princeton. His friend Benjamin Rush, M.D., of Philadelphia, hath caused this stone to be erected, as a mark of esteem for his worth, and of respect for his noble family."

Dr. Rush commenced his teaching in the college which was reopened in the autumn of 1778 with a class of sixty students. In 1785 he was instrumental in the establishment of the Philadelphia dispensary.

From time to time we find him actively discussing the great problems of the day, as slavery, intemperance, and especially the treatment of prisoners and the establishment in Pennsylvania of a general school system. That he might the better secure a more humane code of laws, he again became a member of the convention of Pennsylvania, in 1787. Having rendered these services to his country and to his native state, having helped them to the uttermost of his power in all their dangers and difficulties in the establishment of government and in security from anarchy, he then said that he had done with politics forever, feeling that his duty was to devote himself to his profession and to the providing for his family.

He expressed himself with great earnestness upon the proper education of women and observed that a philosopher once said, "Let me make the ballads of a country and I care not who makes the laws"; he might with more propriety have said, "Let the women be educated properly, and they will not only make and administer the laws but form manners and character." The advocates of the ballot for women might well inscribe upon their banners the name of Dr. Benjamin Rush.

The medical teachings of Rush are still fairly well known, although long since supplemented by wiser methods. He was the ardent disciple of Sydenham, Boerhaave and Cullen; indeed, Rush was sometimes called the Sydenham of America. He named his country place Sydenham in honor of the great teacher.

He is best known for his work on yellow fever and as the insistent teacher of bleeding in fevers. Linnaeus had brought out his great treatise upon botany about 1750, and this incited a new and deep interest in the study of medicinal plants. In his later pupilage in London, Dr. Rush knew the celebrated Dr. Fothergill, perhaps then the leading physician of London, whose works upon medicine were published by Lettsom in three volumes in 1783.

Dr. Rush must have well known John Bartram, who was born in 1699, and died in 1777, and his equally celebrated son William, who was born in 1737, and died in 1823, both fellow townsmen. John Bartram was the great botanist of America prior to the Revolution. The Bartram gardens now form one of the public reservations in Philadelphia. William was carefully educated in England and for five years was employed by Dr. Fothergill in studying the botany of the South particularly for the purpose of discovering medicinal plants.[2] It will be remembered that this was a period of "systems of medicine" wrought out with much labor; many believing that every disease had its remedy if we were only wise enough to know it. "There was a balm for every wound."

The year 1793 was that of the great epidemic of yellow fever in Philadelphia. Dr. Rush, forty-eight years old, was in the prime of his physical vigor and, although he sent his wife and children into the country, he considered it his duty to remain and care for the ill in every possible way.

It is interesting to note that in his despair over the frightful mortality which ensued, he remembered a manuscript which had been given to him by Dr. Benjamin Franklin concerning yellow fever in Virginia, in 1741. This observer stated that "the debility was only apparent; that the vitals only were under oppression and if this was removed the system would be freed and reaction occur in almost every recent case." Under the influence of this dogma, Dr. Rush used active cathartics and tried bleeding. The apparent success was for the most part accepted, although under active opposition. His sister, who insisted upon remaining with him, died of the fever, and in the second week in October, Rush was attacked. He recovered from the fever very slowly and was unable to resume duty until after the epidemic had ceased.

Dr. Rush was a man of most sincere religious convictions and resolutely pursued the path of duty as he saw it, and trusted in good Providence for guidance. Referring to it he said, "Posterity is, to the physician, what the day of judgment is to the Christian."

The teaching of Dr. Rush was rapidly disseminated and his practices generally adopted in America. In the height of his fame, Philadelphia was the medical center of the United States, and he is said to have averaged a lecture each day, often to four hundred pupils. The enthusiasm of the master was imparted to the pupil, and he was greatly beloved.

The widow of Dr. F. C. Chaplin, a famous physician of Cambridge in our earlier day, presented me with her husband's instruments. About fifty lances in various conditions with the approved instruments for wet cupping were included—relics of the age of bleeding.

Thomas Jefferson, the wise philosopher as well as statesman, was a friend of Dr. Rush, yet he satirized the profession as is shown in the following quotation.

> "The reputation of the profession among the laity when Dr. Rush was in full glory, is thus graphically given by his great political colleague, Thomas Jefferson, who, in writing to his friend, Dr. Wistar of Philadelphia, in 1807, makes use of the following words as applied to medical men: 'We have seen the fashions of Hoffman, Boerhaave, Stahl, Cullen, and Brown, succeed one another like the shifting figures of a magic lantern; and their fancies, like the dresses of the annual doll-babies from Paris, becoming, from their novelty, the vogue of the day, and yielding to the next novelty their ephemeral favor.' "[3]

This certainly is not a very high compliment to the profession of that time. Nev ertheless, the violence with which Dr. Rush defended his own views, and the grotesqueness of some of his propositions, were a justification of these remarks by Mr. Jefferson. Both of these citizens were great men. They were colleagues as statesmen, and patriots of the loftiest type. The names of both appear upon our Magna Charta, the Declaration of Independence. Both were earnest defenders of the rights of man, and both alike will descend to fame as long as our country lasts. But Dr. Rush appears in a most ludicrous light, when, in the violent support of his heroic methods of treatment against the opposition shown to them by some of his fellow physicians, he declares that "the time must and will come when, in addition to the above remedies (*viz.*, air, light, and water, which are used by all without a physician's advice) the general use of calomel, jalap, and the lancet shall be considered among the most essential articles of the knowledge and the rights of man."

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[2] William Bartram: "Investigations of the Natural Products of Carolina, Georgia and Florida, 1791."

[3] Dr. Henry I. Bowditch: "Public Hygiene in America," Boston, 1877.

In a somewhat similar vein, Huxley once said to me, "Medicine, as applied, is like a lusty giant armed with a great club actively striking about him, but he hits friends as well as foes, for alas he is blind."

In appearance, Dr. Rush was small of stature, delicate and frail in appearance although remarkably erect and energetic, with a vigor and animation of a most exceptional type. His mind neither knew nor desired repose. He never tired of his routine practice and sought refreshment chiefly in his books. Although his country house was attractive and greatly enjoyed by his family, he rarely left his post of duty. Only about six weeks before his death, in a letter to Dr. Ramsey of South Carolina, he said, "I continue to enjoy uncommon health for a man in his sixty-eighth year." He died of pneumonia. The morning after the attack he was bled to ten ounces with a decided relief. The second day he was cupped to three ounces, also followed by relief and sleep. Death occurred on the nineteenth of April, 1813.

Jefferson, writing to John Adams, said, "Another of our friends of '76 is gone, another of the co-signers of our Independence, and a better man than Rush could not have left us, more benevolent, more learned, a finer genius, or more honest."

In 1771, Dr. Rush wrote two essays against slavery and, with Dr. Franklin, was one of the founders of the society for the protection of free negroes. He was the first to move for the establishment of the African Episcopal Church, in 1792, an organization of the largest value to the race. His special articles on ardent spirits and tobacco were published in large editions, and he sent them at his own expense to the clergy and others for distribution. It is especially on account of his studies of these drugs that I have felt I could present no theme better fitted on this occasion. The title of his essay is "An Enquiry into the Effects of Spirituous Liquors on the Human Body," to which is added a "Moral and Physical Thermometer, by Benjamin Rush, Professor of the Theory and Practice of Medicine in the University of Philadelphia. Printed at Boston by Thomas and Andrews at Faust's Statue, No. 45, Newbury St., MDCCXC." This little tract of ten pages I would reprint entire, since it is, in its fundamental teaching, as important today as when written.

He was a pioneer in the cause of temperance, and his teaching of the harmful effects of alcohol and tobacco upon the human system are in accord with the biological chemistry of the present.

For more than a century since the publication of Dr. Rush's essay upon the injurious effects of alcohol, the pulpit and the press have been united in an earnest endeavor to warn the people from the drink evil. It has increased rather than lessened until the present. Its extent is briefly stated by Superintendent A. J. Davis of the Massachusetts Anti-Saloon League, in an address to a body of young men at the Y. M. C. A. rooms in Ashburton Place very recently. His talk dealt largely with statistics showing how much money is wasted for liquor. Mr. Davis said, in part:—

> "Of the men in the prisons of Massachusetts, ninety-four per cent. were drunkards before the law got hold of them. To every assault committed in the home or street there are eight committed in the saloon. The average income in Massachusetts is $762.00. A family of five is usually supported on it. Out of that $762.00, an average of $90.00 is taken every year for drink. Think of it, $18.00 for each man or woman in this commonwealth, whether they drink or not! Yet we complain of the high cost of living.
>
> "The people of Great Britain paid $800,000,000 in 1911 for alcoholic drinks. The people of the United States paid $1,568,000,000. We hear people comment on how much pensions are costing us. The American people spent more for liquor in the past three years than pensions have cost us since the Civil War. We also hear of the tremendous fire loss. In 1909, the amount spent for liquors was seven times, approximately, the fire loss."

The incarceration of our prisoners, serving terms of punishment for a considerable period, enforces abstinence from alcohol and kindred drugs. Thirty thousand prisoners are discharged annually from Massachusetts alone, branded with infamy. If twenty thousand of these men were made criminals by drink, it enforces an obligation upon the public that they should be encouraged and reinstated in employment lest the old habit again becomes dominant and the latter end is worse than the first. The single state of Massachusetts spends about seven millions of dollars annually as the cost for police courts and prisons, and gives less than twenty-five thousand dollars for the restoration of this army of thirty thousand prisoners which it again lets loose for good or evil.

It is a fair estimate that the number of criminals in the United States is twenty-five times greater than in Massachusetts. Upon this basis, about five hundred thousand men, whose crimes were committed under the influence of alcohol, are annually discharged from our so-called reformatory institutions. Comment is unnecessary. A problem of first magnitude awaits a proper solution. Only recently the American Medical Association, as the representative of the medical profession of America, now numbering quite one hundred and twenty-five thousand members, dedicated in this city a splendid monument erected to the memory of Dr. Rush. It is a willing tribute to the greatest of the early teachers in America and marks an era in the history of medicine. It is splendidly fitting that it should be located in our great national capital. This monument bears worthy comparison and companionship with that of Chief Justice Marshall, the renowned exponent of an equally great subdivision of learning. Generations yet unborn will worship at such shrines and find developing within them high ambitions for efficient service to their country.

Dr. Wiley of this city, whose service to the public can hardly be overestimated, recently stated that human life is the greatest possible national asset, and that, as a corollary, every efficient means for its preservation and prolongation should be sought and emphasized. "Why should we be content with an average life of forty-four years? There is historic evidence to show that man's greatest activities are developed with experience, and that the age between sixty and seventy is more productive for one who has lived in accordance with nature. It is shown from statistics that we die sixteen years before we reach the maximum usefulness of man. There is infinite opportunity for good work offered to all. If we can secure a race free from disease, endowed with all those qualities of mind and body which make for human efficiency, we need not ask that every one become eminent and wealthy, but each can perform the duties which come to him in a way to develop a uniform excellency of the human race.'' If the efficiency thus pointed out by Dr. Wiley is to be obtained, hygienic training must begin in early childhood and continue. The possible asset of life has, of course, other standards than that of years. Its bank account is in such large deposit, that we freely draw drafts upon it as if they were to be forever honored, forgetting that unless we make our deposits in proper sufficiency, there will come the protest, written red in dire calamities which end in disaster. We sometimes wonder, on the other hand, that more and greater failures do not ensue.

Tied to the past by heredity, as an ever present force, surrounded by influences of kaleidoscopic variety, beset on every hand with difficulties, almost without chart or compass, we sail our bark out into the unknown sea. Biological chemistry, although still in its infancy, is teaching us the ill effects of many things, which, for generations, have been called good. It is pointing out to us the wise selection of food and its physiologic transformation for the renewal of life processes. It has shown us, on the one hand, that the very blood currents of life are disturbed and oftentimes their functions greatly injured by articles which hitherto we have believed, taken in moderation, were helpful rather than hurtful.

To these belong the entire class of articles which we have called, for want of a better name, stimulants and sedatives. The two most potent now, in general use, are alcohol and tobacco. The great dynamic forces of life are modified by them, and almost without exception, even when taken in moderation, they are injurious to the highest and most delicate of cerebral functions. Convince men of this as a general truth and you will do more for the benefit of our race than by portraying in eloquent language the dire results of excessive use, which no man at the beginning is willing to believe can ever, by any possibility, become his own personal experience.

Every true reformer must expect as his present reward criticism and not praise.

The late Mrs. Hunt of Massachusetts succeeded in introducing the teaching of the physiologic effects of alcohol into the textbooks used in the common schools of America, against an opposition which would have crushed a less heroic soul.

Biological chemistry is not limited to medical teaching. In its fundamental factors it should be as universal as the language we speak. Ought not the profession which we especially represent be recognized by the public in both life and teaching as its legitimate exponent?

Medical knowledge, as to-day generally accepted, put into practice would increase the longevity one third, divide the ills of life and double the efficiency of the race. Verily we die twenty years too young!

ORIGINAL ARTICLES.

HIGH INTESTINAL OBSTRUCTION, POSTOPERATIVE ILEUS AND ACUTE PANCREATITIS.

BY J. E. SWEET, A.M., M.D.,
Assistant Professor of Surgical Research, University of Pennsylvania, Philadelphia.

(Read in the Section on Surgery of the Medical Society of the State of Pennsylvania, Scranton Session, September 26, 1912.)

The existence of a group of pathological conditions in the same locality of the body, involving the same organs, with no small degree of similarity in their symptomatology, and with nearly the same degree of uncertainty as to the true nature of the underlying cause in all, makes the study of the conditions I have grouped together a peculiarly interesting one. While it is true that the same symptom complex may be produced by a variety of causes, it is also true that modern surgery is able to differentially diagnose other conditions with more certainty than just this group affecting the upper right abdominal quadrant. The more I have worked with these conditions, the more firmly has the conviction forced itself upon me that the reason for this diagnostic confusion may after all be a simple one, that we are really dealing with the same underlying principle in all of them. I mean that the causative agent, the factor responsible for the chain of symptoms, the cause of death in high intestinal obstruction, in acute pancreatitis, in postoperative ileus, and in acute postoperative dilatation of the stomach and duodenum, if this be an entity separable from ileus, is the same in all.

The question of intestinal obstruction has been before the profession so often of late that it is not necessary here to give any extensive review of the literature; it is now agreed upon by all those working in this field that some poisonous agent is responsible for the train of symptoms which lead to death. Concerning the source of this poison, there is no agreement. It has been definitely shown that obstruction at the pylorus does not cause an acute condition. Obstruction of the gut becomes more serious the nearer the obstruction to the opening of the pancreatic duct, and obstruction of the pancreatic duct under certain conditions leads to acute hemorrhagic pancreatitis. The source of the toxin is therefore evidently the upper gut or its appendages since the nearer to this point is the obstruction, the more acute the result. The normal gut itself does not seem to contain a poisonous factor. After the obstruction has permitted the digestion of the wall of the gut the content becomes intensely toxic,[1] but the content of any putrescent abscess cavity is also toxic. Death is certainly not due to the loss of any function of the duodenum which is essential to life. Of three dogs in which the entire duodenum was resected with transplantation of the bile duct and the pancreatic duct into the ileum, one died after several weeks, of a peculiar hemorrhagic peritonitis, while two were alive and perfectly well after six months.

A word here in regard to one of the latest publications on the subject of intestinal obstruction. Hartwell and Hoguet[2] believe that they have found that the cause of death is the loss of water from the body. Their experiments show that the administration of large quantities of water in the form of saline solution does prolong life. Nevertheless, I do not agree with them that this loss of water is the cause of death in the ultimate sense. If a man is hit upon the head with a brick the cause of death may be pressure upon the great centers of the medulla due to traumatic edema; but I incline to blame the brick. They point to Asiatic cholera as a similar condition, an unhappy comparison, because it has been shown that while the administration of large amounts of water does keep the cholera patient alive, the final results with this treatment are but slightly better than without it; the patients die later from acute kidney complications and the cause of death in Asiatic cholera still remains the toxin elaborated by the spirillum.

There is in this region of the body a normal product of intense toxicity, the pancreatic juice or the pancreas substance itself. The injection of twenty cubic centimeters of perfectly fresh pancreatic juice may cause the immediate death of a dog with symptoms of shock; the transplantation of a portion of the normal pancreas of one dog into the belly of another will certainly be fatal within twelve to twenty hours. If the pancreatic duct be cut and arranged in such a manner that it can not close, or become closed, the absorption of the dog's own pancreatic juice becomes fatal. These points were first worked out by Guleke[3] in connection with acute pancreatitis; having been substantiated by others, it became satisfactorily proved that the symptoms of acute pancreatitis are due to the absorption of pancreatic products, perhaps chiefly trypsin.

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[1] Stone, Bernheim and Whipple. *Bul. Johns Hopkins Hosp.*, June, 1912.

[2] *Jour. A. M. A.*, July 13, 1912.

The conditions leading to the absorption of pancreatic juice in acute hemorrhagic pancreatitis have been clearly shown by Opie[4] to be mechanical. A gallstone, too small to occlude the ducts, yet large enough to occlude the papilla of Vater, permits the passage of bile into the pancreas. An acute pancreatitis, with absorption of pancreatic products, results.

The conditions governing this absorption of pancreatic ferments do not seem to me entirely clear. If the duct be tied, there is no absorption but a gradual destruction of the organ by sclerosis; and yet that a fatal amount of pancreatic ferments may gain admission to the system under fairly normal conditions is seen in the work with the operation known as Eck fistula. The Eck fistula is an artificial anastomosis between the portal vein and the vena cava with the subsequent ligation of the portal at the hilus of the liver, so that the liver is cut out from its portal function. Many of the animals so operated upon die within twelve to eighteen hours with symptoms of shock. In my own experience I have lost perhaps one third of my experiments in this way. Fischler[5] believes that this peculiar state of affairs is due to the action of the pancreatic ferments, chiefly trypsin, pressed out of the pancreas during the retraction of the organ necessary to the operation, and his work seems to substantiate his theory.

There is, to my mind, another channel by which the pancreatic products may gain access to the body. Not all the pancreatic juice is neutralized by the food; some of the ferments must be treated like any other proteid body, be broken up and absorbed. It seems to me possible therefore that under the conditions of ileus, by which I mean paralytic obstruction, or of mechanical obstruction the unchanged pancreatic products may gain access to the body fluids through the intestinal wall.

I have performed a number of experiments in an attempt to throw some light upon this hypothesis. I have completely removed the pancreas and then obstructed the bowel. Death occurred as usual, except that the bowel did not show the usual evidences of maceration, self-digestion, etc., not even the inverted ends where the gut was inverted and tied. I concluded from these experiments that the toxin in high intestinal obstruction was neither elaborated in the obstructed gut itself nor necessarily absorbed from it. If Fischler's idea concerning the absorption of pancreatic ferments in the course of the Eck fistula operation be correct, when the organ is carefully drawn aside, certainly a much greater quantity of ferment products would be forced into the body fluids during an operation for complete extirpation. The numerous experiments which have been performed, in which the gut has been obstructed and the pancreatic duct transplanted to some lower part of the gut, are also open to the same critical objection.

There is still another line of reasoning which leads me to the same conclusions: One of the most constant pathological findings in our work has been an extensive destruction of the adrenal glands following intestinal obstruction, a picture of an acute necrosis affecting chiefly the medulla. The work which has been done in our laboratories with Dr. Pemberton[6] shows an indubitable relation between the adrenals and the pancreas. If the pancreas be stimulated by any of the known means of stimulating that organ, the injection of adrenalin stops the flow of pancreatic juice. If the adrenals exercise normally some sort of control over the pancreas, then there must be a reverse relation between the pancreas and the adrenals, and the finding of these lesions in the adrenals after intestinal obstruction becomes of importance to our idea.

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[3] *Archiv. f. klin. Chir.*, 1908, Vol. LXXXV., p. 615.
[4] Diseases of the Pancreas.
[5] *Deutsches Archiv f. klin. Med.*, 1911, Vol. CIV., p. 300.

And still another line of reasoning: The most typical symptom of the conditions I have grouped together is the collapse and shock. Now shock is not a clinical entity. There is a shock due to central influences and there is a shock due to purely peripheral conditions. I believe the adrenals to be engaged in maintaining blood pressure by the control exercised by the specific adrenal products over the arterioles of the periphery. I believe I am right in the assumption that the shock of these abdominal conditions is a shock in which the blood pressure primarily falls. The centers, as evidenced by the continued functioning of the higher centers, are not primarily affected. After the shock induced by severe hemorrhage there comes first the evidence of the anemia of the higher centers.—fainting and loss of consciousness. In peripheral shock the centers would remain intact until the blood pressure had fallen to a degree which would cause central anemia.

Because the absorption of pancreatic ferments has been shown to be the cause of death in acute hemorrhagic pancreatitis; because the clinical picture of acute obstruction of the upper bowel so closely resembles that of acute pancreatitis; because the loss of the normal functions of the adrenals would explain the most striking symptom of these conditions, the collapse and shock, and the adrenals are found to be seriously damaged in intestinal obstruction; because of the relations between the pancreas and adrenals, I conclude that the cause of death in acute hemorrhagic pancreatitis, in high intestinal obstruction and in postoperative ileus is the absorption of pancreatic products by causing destruction of normal adrenal activity.

I would ask your pardon for presenting an evidently unfinished paper were it not for two things; first, the final proof of my supposition demands methods and reactions not yet discovered—we are treading beyond the limits of our present knowledge; second, the idea I have here brought forward suggests a line of treatment which would have one excellent feature, it could do no harm; if the underlying cause of these conditions be due to an absorption of pancreatic juice which destroys the function of the adrenals, then adrenalin should be used, given continuously in dilution in intravenous saline injection to inhibit the action of the pancreas and to supply the adrenalin which is essential to life.

DISCUSSION.

Dr. Edward Martin, Philadelphia: I can not refrain from expressing my appreciation of Dr. Sweet's elaborate and painstaking investigations, which he has modestly compassed within the ten minutes allowed to him. His work may be epoch making. It is yet unfinished, but he has given us really the first ray of light on the management of these cases aside from the purely mechanical one. He has summarized with singular clarity the work of several years.

Lack of systematic personal training in the methods of the recognition of disease leads to the misapplication of remedies, to long courses of treatment when treatment is useless, and so directly to that lack of confidence in our methods which is apt to place us in the eyes of the public on a level with empirics and quacks.—Osler.

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[6] Sweet and Pemberton: *Archiv. of Int. Med.*, July, 1908. Sweet: Am. Prac. of Surg., Bryant and Buck, Vol. VIII., p. 1063. The Relation of the Ductless Glands to Surgery, *Annals of Surg.*, October, 1910

MEDICAL ASPECTS OF PULMONARY SURGERY.

BY H. R. M. LANDIS, M.D.,
Philadelphia.

(Read in the General Meeting of the Medical Society of the State of Pennsylvania, Scranton Session, September 26, 1912.)

The past few years have brought about most important advances in the treatment of thoracic diseases. Certain affections of the lungs and pleuræ which were formerly treated symptomatically with no hope of cure have been brought within the scope of rational surgery. To a great extent this has been made possible by painstaking animal experimentation, and it is now an established fact that the technical difficulties which formerly stood in the way have been surmounted.

Diseases of the thoracic cavity, almost without exception come first under the observation of the internist, and it is his function to determine the existence of conditions which may be relieved or cured by operative methods, and not allowed to drift into hopeless chronicity.

Success in the treatment of certain of the affections of the lungs and pleuræ makes it essential that the internist should seek surgical advice in doubtful cases much earlier than is at present customary. On the other hand, it is equally essential that the surgeon should recognize that definite localization on the part of the clinician is not always possible, and that he must assume the responsibility of actually locating the trouble. While hasty operative interference is not to be recommended it must be remembered that the technical difficulties have been so far overcome that a positive diagnosis is not absolutely essential and that an exploratory operation is admissible. With a more general appreciation of the possibilities in this new field, it is not unlikely that much of the criticism, which at present involves the internist and surgeon alike, will cease.

That some of the diseases affecting the lungs and pleuræ can be more successfully treated by surgical methods must be apparent to any one who has followed the reports from some of the surgical clinics abroad and in this country. Furthermore, an infinitely greater experience in the treatment of certain of the inflammatory conditions of the lungs and pleuræ has pretty conclusively shown that little is to be expected from climatic, hygienic or medicinal methods.

Abscess. Of the conditions which especially demand surgical interference the first in importance are those due to suppuration. A pulmonary abscess, whether acute or chronic, is as certainly a surgical condition as an abscess in any other region of the body; and while a pulmonary abscess often spontaneously evacuates itself and heals, a too strict adherence to the expectant method of treatment is not advisable if the drainage is intermittent, the sputum becomes fetid or evidences of toxic absorption develop. Undue delay in seeking surgical assistance may also lead to rupture of the abscess into the pleural cavity with a resulting empyema.

Of thirty cases in the Boston City Hospital, with a diagnosis of probable pulmonary abscess, Jackson[1] reports that nineteen of the patients died, four were discharged unrelieved and seven were discharged relieved but not cured. These results are more discouraging when contrasted with thirty-seven pneumotomies done by Körte[2] for abscess and gangrene with twenty-five cures and twelve deaths. Kulps[2] at the same time reported twenty-three cases of pulmonary abscess from Quincke's Clinic, in which thirteen of the patients were cured, four were improved and six died. While it is freely admitted that the figures quoted are not sufficiently large to draw sweeping conclusions, they serve to emphasize what is pretty generally believed by those seeing very many cases of this type, namely, that surgery is the only certain method of relief.

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[1] Musser and Kelly: Practical Treatment, Vol. III.
[2] *Berliner Klin. Wochenschr.*, Feb., 1912.

Abscess of the lung may be acute or chronic, and is almost invariably secondary to other diseases. Acute abscess is most frequently seen as a sequel to croupous or bronchial pneumonia, septic processes in the mouth, pharynx or neck, and post-partum infection. In the majority of cases the presence of an abscess is to be suspected by the hectic fever, occasional chills and the persistence of pulmonary consolidation. The diagnosis is rarely made, however, until the appearance of the sputum. This constitutes the characteristic feature. The sputum appears suddenly, is puriform and usually copious in amount. In the beginning it may be brownish in color or, as is not uncommonly the case, grass green in color. Elastic fibers may or may not be present. With the evacuation of the pus, cavity signs may be recognized. A common site for abscess is at or near the inferior angle of the scapula. While patients do recover under expectant treatment, surgical advice should be obtained as soon as the abscess is recognized or, for that matter, even suspected. The question as to the advisability of surgical intervention should then rest with the surgeon.

Gangrene of the lung which occurs under somewhat similar circumstances is subject to the same rules.

Chronic abscess is less well understood than the acute form. The etiology is often obscure and the physical signs and symptoms are not distinctive. Of six cases of suspected chronic abscess seen at the Phipps Institute during the past eighteen months the patients each had a cough, which had persisted for months, and purulent sputum which did not contain tubercle bacilli. The constitutional disturbance was slight and the general health fairly good. These patients were all sent to the dispensary because they were supposed to be tuberculous. The physical signs were those of pulmonary consolidation at the base of one lung (poor expansion, impaired percussion note, feeble breath sounds and râles). In two instances an *x*-ray examination indicated the probable existence of an abscess.

In this connection it may be mentioned that in the majority of cases of nontuberculous infections of the lungs the trouble is situated at the base rather than at the apex of the lung; tuberculosis, as is well known, almost invariably starting at the apex.

One other point regarding small collections of pus either in the lung itself or encysted between the two layers of the pleura, is that one negative, or even a half a dozen negative needle punctures mean nothing. Often the abscess is so small that even repeated punctures fail to strike it.

While the individual's life is not especially threatened by a small chronic abscess, the condition if allowed to remain acts as a foreign body and is apt to lead to extensive fibroid changes in the surrounding pulmonary tissue and the eventual dilatation of the bronchi.

Encapsulated empyema, a term applied to a collection of pus between two visceral layers of the pleura, in an interlobar fissure or between the visceral and parietal layers of the pleura, is also subject to the same treatment as abscess. A common site for this condition is in the interlobar fissure near the angle of the scapula. Robinson is of the belief that in many instances what seems to be an encapsulated empyema is in reality a pulmonary abscess that has ruptured into the pleura and become encysted. The physical signs are practically the same as in chronic abscess. In some instances the affected area is sharply defined by localized tenderness to pressure on the thoracic wall.

Empyema. The most essential thing to keep in mind regarding empyema is that its successful treatment depends almost entirely on its early recognition. If after the crisis in pneumonia there is a chill and a recurrence of fever, the existence of an empyema should be suspected. Empyema may also occur as a complication of the acute infections, from an abscess of the lung or mediastinum rupturing into the pleural cavity, and as a result of injury to the chest wall. If purulent fluid in the pleural cavity is recognized within the first week or ten days of its development and receives prompt surgical treatment the results are, as a rule, excellent. After the acute stage is passed there is always some uncertainty as to whether the lung can be restored to its full functional capacity, as adhesions have had time to form and the extent to which these adhesions can be broken can only be determined by resection of several ribs and digital exploration.

If the empyema remains unrecognized for over six weeks or two months or has been insufficiently drained in the acute or subacute stages, the condition passes into the chronic stage. By this time the adhesions are so dense that in order to effect a cure recourse must be had to one of the major operations devised for this condition.

Bronchiectasis is practically always a secondary condition due either to long-standing bronchial inflammation or, what is more common, bronchial inflammation associated with pulmonary inflammation and induration. The condition develops slowly and is rarely recognized until well established. For this reason successful treatment consists in the relief of inflammatory conditions which are especially apt to produce indurative changes in the lung, notably chronic abscess and empyema.

The principal symptoms of bronchiectasis are dyspnea, a paroxysmal cough, and the expectoration of large quantities of sputa at variable intervals. If the sputum is fetid, and it often is horribly so, the lot of the individual is most distressing.

Associated as the condition is with fibroid changes in the lung the dilated bronchi are usually most marked about the root and base of the lung; the common sites of pulmonary fibrosis. The only exception to this is in tuberculosis where the bronchi at the apex of the lung are not uncommonly affected.

The physical signs are not distinctive. Poor expansion, some retraction of the chest wall, impairment of the percussion note, feeble breath sounds and cavity signs are among the signs which may be noted. Clubbing of the fingers is more extreme in this condition than in any other with the possible exception of congenital heart disease. The presence of extreme clubbing should always arouse one's suspicions as to its presence.

I have never seen a case of bronchiectasis much benefited by hygienic measures aside from a slight improvement in the general health. Drug therapy is also unavailing either in removing the trouble or in materially alleviating the symptoms.

Surgery is the only hope of relief, and this is not applicable if the disease is bilateral or involves one entire lung. If, however, the diseased area involves all or part of a lower lobe, an operation may be advised. Three methods are available: (1) Compression of the affected lung by means of nitrogen gas; this is not applicable in many cases owing to the dense pleuritic adhesions which so commonly accompany the condition. (2) Immobilization by means of extensive resection of the ribs overlying the diseased area. (3) Excision of the affected portion of the lung. Robinson[3] is of the belief that the latter procedure will be the eventual method of choice. He has reported a case of successful excision of half of the left lower lobe for bronchiectasis. Eight other successful pneumotomies for this purpose are mentioned by Fraenkel and Körte[2] in a recent article.

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[3] *Boston Med. and Surg. Jour.*, Vol. CLIX.

Pulmonary Tuberculosis. With the perfection of a technic for the performance of operation on the thoracic viscera, it is not surprising that surgeons have turned their attention to pulmonary tuberculosis. The simplest procedure and the only one which at the present time can be favorably considered is the production of an artificial pneumothorax. The operation is easy and, so far as can be judged from the results published, bids fair to become an established method in the treatment of a certain type of cases.

The production of an artificial pneumothorax is not to be recommended in cases with incipient or moderately advanced tuberculosis, if an arrest of the disease is being brought about by the usual hygienic and dietetic measures now employed. Robinson and Floyd[4] advise pneumothorax therapy in that group of cases advanced beyond the promise of relief of methods of hygiene, and before the disease has advanced to the stage when a fatal termination may be expected at any time.

Patients with frequently recurring attacks of hemoptysis have been markedly benefited by the production of an artificial pneumothorax. The operation is also admissible at times in hopeless cases for the alleviation of symptoms. The other operative procedures for the relief of tuberculosis involve the resection of a portion of one or all the ribs on one side. In some instances the operation is quite extensive. The number so far operated on is too small to form a judgment as to how permanent a place this procedure will eventually have in healing the disease. All that can be said at present is that even advanced cases of pulmonary tuberculosis stand operative interference surprisingly well, the immediate mortality in sixty-two cases operated on by Sauerbruch,[5] Wilms[5] and Friedrich[6] being fourteen and eight-tenths per cent.

THE SURGICAL ASPECTS OF THOSE DISEASES OF THE THORAX WHICH ARE AMENABLE TO SURGICAL INTERVENTION.

BY SAMUEL ROBINSON, M.D.,
Surgeon to Out-Patients, Massachusetts General Hospital; Dalton Scholar, Massachusetts General Hospital, 1912, Boston.

(Read in the General Meeting of the Medical Society of the State of Pennsylvania, Scranton Session, September 26, 1912.)

I appreciate your courtesy in inviting me here, for indeed occasions are rare at which internists and surgeons meet to discuss in a symposium the treatment of thoracic diseases. We may admit forthwith that neither physicians nor surgeons can boast of particularly brilliant achievements in combating lung diseases.

I have come to believe that that famous man, who remarked that he was free from pain but far from well, must have been afflicted with a chronic pulmonary infection. Inasmuch as I have undertaken to cover several subjects in this paper, I will limit my discussion of the more common diseases to certain conclusions which I have been led to make by a considerable operative experience.

There are certain features in the diagnosis and study of acute abscess which concern both the internist and surgeon. I have been persistent and perhaps somewhat obtrusive in my views concerning exploratory needle puncture. You will agree with me, I think, that unnecessary delay in these cases is frequently prompted by a general feeling on the part of the internist that it is his duty to localize pus within the chest before prescribing surgical intervention. A positive needle puncture is at once confirmative. A series of negative aspirations should not be regarded as an excuse for delay any more than a normal leukocytosis should contraindicate operation in appendicitis. It is true, however, that the internist not infrequently continues expectant treatment when he has been unable to demonstrate the presence of pus, although from all other signs he may be quite confident of its presence. In this connection I must emphasize again the success which I have had in employing universally anesthetic thoracentesis. The technic of locally anesthetizing the channel of an aspirating needle is generally known; but, I regret to say, not universally employed. There are different advantages in avoiding the stabbing method. Sometimes stabbing is not distressing to the patient, but more often it is. The employment of local anesthesia on the contrary enables the physician to search repeatedly for pus, while one painful stab by the old method may reduce his enthusiasm to continue his exploration because of the reluctance of the patient to be subjected to further pain.

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[4] *Archives of Int. Med.*, Apr. 15, 1912.

[5] *Deutsch. med. Wochenschr.*, May 2, 1912

[6] *Munch. med. Wochenschr.*, Sept. 26, 1911.

Perhaps it is not surprising that physicians are reluctant to subject their patients to surgeons when they have after thorough search failed to localize suppuration. Physicians frequently feel that if they surrender the case the surgeon will operate regardless. Surgeons familiar with thoracic surgery, however, cultivate a great respect for the dangers associated with search for concealed pus in the lung or pleura. I find myself frequently unwilling to explore even at the advice of the internist, because I am familiar with the regions which are surgically inaccessible and those which are readily reached. I have learned by bitter experience that all kinds of suppuration can not be drained; that it is safer to wait for incomplete bronchial drainage to become complete than to risk approach to deep-seated cavities.

I urge, therefore, in cases of suspected suppuration when the needle puncture is negative, that surgical consultation should be held more promptly, and that the internist credit the surgeon with diagnostic knowledge in this regard which he himself has not had the operative opportunity to acquire.

Acute Abscess of the Lung. From the study of twenty-five cases and fourteen operations I have come to the following beliefs. Patients with metapneumonic abscess should be given ample opportunity for bronchial drainage. Spontaneous cures unquestionably result. The tendency of the internist is unquestionably to carry prophylactic treatment to an undue limit, the patient's resistance to operation being in the meanwhile steadily diminished. A negative needle puncture is by no means a contraindication to operation. The mortality in operations for acute abscess is universally low, and I have had the good fortune not to lose a case. The rapidity with which such patients recuperate after operative drainage is very gratifying. Encapsulated and interlobar empyemas generally originate from abscess at the periphery and adjoining interlobar fissures, and earlier drainage of the original abscesses would, I am sure, reduce the number of cases of so-called "empyemas draining into a bronchus."

Chronic Abscess. This term should be applied to abscesses other than of pneumonic origin. They occur in the presence of inhaled septic material from foreign bodies and from chronic lung mixed infections, excluding those from the influenza bacillus. Expectant treatment should in these cases be given a long trial. Inhaled material from foreign bodies may be expectorated before the secondary lung changes have led to obstinate chronic conditions. Negative *x*-ray findings are by no means indicative of the absence of foreign material. I have come to regard these cases as extremely difficult ones to manage. During the prophylactic stage you will agree that the best hygienic surroundings and administration of expectorants are of value. Surgical exploration is attended with danger and should be conducted in conservative manner in repeated rational operations with local or carefully selected general anesthesia.

A recent case will illustrate a conservative method of attack. The opinions of three internists, with whom I willingly agreed, pointed to a peripheral focus at the left base. I excised a piece of rib under novocain, during which time the patient continued to evacuate the usual profuse sputum. The lung was adherent. I always employ this method in preparation for a thorough needle search of an uncertain area. In this case a large four-inch needle was introduced in six different directions without causing any pain, and with negative results. The absence of chest wall tissues and the direct probe to the pulmonary tissue facilitated the control of the blunt needle. Four days later the patient having had no setback as a result of the first negative exploration, the left top was selected because of a second *x*-ray shadow at this point, and because of less conspicuous physical signs. A piece of the third rib in front was resected under novocain. The needle was painlessly inserted downwards towards the region not reached by the first exploration. A cavity was entered and foul pus and necrotic material aspirated. A tube was inserted with no expectation of uphill drainage. Ten days later under novocain I resected two ribs for a distance of one inch in a new area, and reached the bottom of the cavity opened at the previous operation. Through and through drainage was then apparently complete, and the patient had not been discouraged or set back by three operations. The ever-present danger of retention of sputum under general anesthesia had been obviated by the uninterrupted expectoration. I cite this case as an illustration of what I believe to be the conservative method by which we will eventually learn to handle these cases of chronic abscess and gangrene. Any radical operation under general anesthesia would have killed this patient at the outset, and I am more and more convinced that slowly pegging away at such cases will be the ultimate source of their cure.

Empyema. We are all familiar with this subject. I will again omit all but general conclusions based upon my series of seventy operations for this disease. So-called interlobar empyema is extremely rare, and my tendency now, when this diagnosis is made by an internist, is to conclude that the needle puncture was negative, and that it had been presumed, therefore, that the pus must be between the lobes. In my group of operations I have frequently received a case with this diagnosis, but have never found the condition present. Pus which is not reached with the needle is generally within the lung and not in the pleural cavity. Sometimes I have found it between the diaphragm and the lower lobe. In one case repeated needle punctures and a previous operation by another surgeon had failed to discover pus. The lower half of the entire lung was adherent to the chest wall, and all aspirations had been conducted within the level. I found a true empyema following an upper-lobe pneumonia, the lower limits of which were higher than the lower angle of the scapula, the upper lobe being retracted towards the median line.

The prognosis in the surgical treatment of empyema depends partly upon the extent of pulmonary involvement. The drainage of an empyema in the presence of pulmonary abscess is attended with great danger. The abscess contents can no longer be evacuated because of the open pneumothorax, and septic stagnation occurs. Death should never be the result of operations for uncomplicated empyema of any sort. If death occurs in the treatment of acute empyema, it is because of ill-administered anesthesia, disregard of the significance of operative and postoperative pneumothorax in the early cases where the lung is not firmly adherent, or from incomplete or ill-applied drainage. The common but inexcusable deaths from chronic empyema operations may be credited generally to too extensive rib resection, and to disregard of the limited functionating lung area by the anesthetist; or to the choice of a decortication operation (stripping of the visceral pleura) in cases where such a procedure is not appropriate.

It is a sad truth that chronic empyema should never occur. I realize that the internist can criticize the surgeon for his inadequacy in handling many thoracic conditions, but I must retaliate in calling attention to the almost criminal neglect in the recognition of uncomplicated empyemas which I am seeing repeatedly. The drainage of empyema in the early stages is simple enough and followed invariably by prompt reëxpansion of the lung. When not recognized early the lung becomes adherent and there it will remain till a chronic empyema is at hand. How can we reduce their frequency other than by crying aloud at the internist who follows the pneumonia and neglects the sequelæ? There have come to me recently three patients with complete empyema of one year's duration, who have spent months at a time under the observation of tuberculosis clinics. Tuberculosis of neither the lungs nor the pleura was demonstrated in any of the cases. Consultation in thoracic surgery has brought the so-called obscure thoracic cases to my attention, and, sad to relate, many cases of unrecognized empyema have been among them.

We surgeons in turn are often to blame for permitting early acute cases to become chronic. If in these cases the lung does not expand after operation, the after treatment has been faulty. The expansibility should be tested during operation and light adhesions freed if necessary. Once established, the inflation of the lung must be preserved by greater or less degree of suction to the wound; at least, by the prevention of the free entrance and exit of air through the drainage tube. By such methods may we surgeons shorten the convalescence of acute empyema. Perhaps if we more often demonstrated skill in this respect our physician colleagues would be more prompt in giving us an opportunity.

Bronchiectasis: An obstinate but prevalent disease. Here may physician and surgeon admit equal incompetency. Of twenty-four cases of true influenza bronchiectasis I have not seen one case cured by medication or hygiene. Drainage of even a large bronchiectatic cavity is useless; many more remain undrained.

Artificial pneumothorax lung compression has bettered the condition in several cases on record, but it has not cured. Excision of a single bronchiectatic lobe has cured several cases, and one of these I have reported. Any surgeon who attempts a radical one-stage operation for the removal of a bronchiectatic process has no respect for the human being. Why should surgeons lose the confidence of their consultants by other than conservative methods? If the internist has reason to believe that we will not kill his patient, he may consent to surgical treatment. And this in bronchiectasis must be piecemeal. Compression of the lung by the injection of nitrogen gas is not dangerous. The patient will become partially free of sputum. This compression should be maintained indefinitely until the infected lobe of those few lobar cases is ready for excision. Compression by rib resection in bronchiectasis is a fallacy. We have referred to the several-stage method of attacking chronic abscess. In bronchiectasis the stages are different, but the conservative scheme is the same.

I wish that I could proclaim some brilliant surgical successes in bronchiectasis, but I can not, except in one case. Is it not true, however, that many general operations successful to-day would have remained in their undeveloped infancy had not the faith of certain internists been greater than the surgical results justified at the time? Those of us who are struggling with the surgery of chronic lung infections wish only to convince physicians that we are conservative; that we are not inclined to attack unsuitable cases; that we are working along channels of surgical propriety; that already we can relieve, and that eventually with added experience we may cure some of these bronchiectatic cases which seem to defy medication.

About tuberculosis—a word in closing. Surgically we retire during the incipient stage. In the advanced cases we have abandoned draining tuberculous cavities. We are not encouraged that excision of lung tissue in tuberculous patients has a promising future. We are willing to aid the expansion of cramped apices by dividing the cartilage of the upper ribs. We know that immobilizing of a tuberculous lung possesses therapeutic value equal to that of splinting a tuberculous knee joint. Some surgeons would accomplish this by caving in the chest wall upon the lung by extensive rib resection. This is a dangerous operation and not to be employed except as a last resort, and rarely then.

The frequently repeated injection of nitrogen gas into the pleural cavity to produce and maintain artificial pneumothorax and collapse of the lung, is a safe, simple and valuable procedure. I have personally performed about sixty injections and have observed the results of as many more cases by those with whom I have been associated. It is a surgical procedure by the incision method, and by the needle puncture method only in that it is not medication. I have employed both methods and believe in the treatment thoroughly. Relief of some symptoms occurs in a majority of cases; relief of most or all symptoms in more than a third of the cases. The disease is apparently arrested in its activity in five to eight per cent. of cases treated. In the employment of artificial pneumothorax therapy surgeons and internists should combine.

My conclusions regarding the indications for artificial aids to the respiratory functions during thoracic operations are as follows:—

Artificial respiratory apparatus of some sort is a necessity in less than five per cent. of the thoracic operations at present performed on human beings.

The anesthesia administered through an intratracheal tube is the most ideal anesthesia in all thoracic surgery, inasmuch as the insufflation produced is a favorable aid to the already impaired lung function. The oxygenation is more complete, and the patient never becomes cyanotic regardless of procedure or degree of lung destruction.

Inasmuch as the intratracheal method of anesthesia is ideal in all thoracic cases, and inasmuch as it can be easily administered in such fashion as to maintain suitable inflation in the presence of operative pneumothorax in that small group of cases to which I refer, I advocate its use in all thoracic operations.

In a long series of cases in which the patients were anesthetized by this method I have not discovered the least sign of pulmonary irritation, and in no case has the convalescence of the patient been in the slightest degree impaired.

The introduction of suitable artificial respiratory apparatus has been, therefore, an inestimable contribution to the progress of surgery in attacking intrathoracic lesions which are not associated with adhesions of the lung, and opportunity is therefore provided for developments of a surgical technic both in animal experimentation and in human beings.

THE TECHNIC OF THORACIC OPERATIONS.

BY W. WAYNE BABCOCK, M.D.,
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(Read in the General Meeting of the Medical Society of the State of Pennsylvania, Scranton Session, September 26, 1912.)

Anesthesia. For the simpler thoracic operations, including the simpler thoracotomies, and rib resections local anesthesia is to be preferred. The skin, deeper tissues and periosteum should, in turn, be very freely infiltrated with a one fourth per cent. solution of novocain or a one seventh per cent. solution of cocain in physiologic salt solution. In many cases, local anesthesia may advantageously be combined with other measures; thus Friedrich suggests for his extensive pneumolysis that the patient be given a preliminary subcutaneous injection of morphin; then the line of incision is to be infiltrated with an adrenalized cocain solution and the incision made, a few inhalations of chloroform being used to carry the patient through the more painful steps of rib resection. Thoracic operations may also be performed under spinal anesthesia; intravenous anesthesia with hedonal,ether or paraldehyd; under narcotic anesthesia; or under inhalation anesthesia, particularly by the method of intratracheal insufflation of Meltzer-Auer. Spinal anesthesia is often objectionable as it interferes with the motor mechanism of respiration and may produce such a tremendous fall of blood pressure as to favor cardiac arrest in extreme diastole. It should not be employed unless the residual lung is in sufficiently good condition to permit artificial respiration. Narcotic anesthesia under morphin, scopolamin, hyoscin, apomorphin, or related alkaloids, while not irritating to the respiratory tract, causes respiratory depression and in the enfeebled may produce symptoms so serious as to render it necessary to abandon the operation. The usefulness of intravenous anesthesia for thoracic surgery has not been fully ascertained. The intravenous use of a five per cent. solution of ether has, in a number of instances, been followed by pulmonary embolism and other serious symptoms. At present it is probably safer to use ether or nitrous oxid-oxygen by intratracheal insufflation despite the irritative influences of the anesthetic upon the respiratory mucosa. The intravenous use of a seven tenths per cent. solution of hedonal is likewise not free from the dangers of thrombosis and embolism.

Aspiration. Simple aspiration of the thoracic cavity is being used with increasing frequence. In recurrent serous affections the introduction of small quantities of tuberculin or tubercle bacillen into the pleural cavity may produce sufficient reaction to cause the absorption of the fluid. Inactivated pus or serous exudate may also be injected subcutaneously to stimulate the absorption of intrathoracic effusions. In acute empyemas repeated aspirations with the injection of a two per cent. solution of formalin in glycerin have been successfully used by Murphy to gradually convert the purulent effusion into a serous one, and to finally produce a cure of the condition. Where drainage seems desirable, especially in children, permanent aspiration by means of a catheter or soft rubber tube introduced between two ribs is often efficient. The intercostal tissues near the lower border of the effusion are infiltrated by a solution of novocain, the skin nicked and a large trocar plunged into the cavity. The trocar is then withdrawn, leaving the cannula in place through which a catheter is introduced within the cavity, after which the cannula is withdrawn, leaving the catheter in place. Aspiration is carried out by connecting the tube with a low pressure aspirating bottle or by having a sufficiently long dependent tube to produce the aspirating effect of gravity. In some cases, as in pyothorax *en blocquées,* two tubes may be desirable. This method, especially in the young, is simple and often very useful. If despite careful supervision it proves inefficient then one or more ribs should be resected to secure free drainage.

Thoracotomy. The cavity of the thorax may be exposed by a simple incision between two ribs; by a resection of one or more ribs or by the formation of a pedunculated flap which may or may not contain sections of the underlying ribs. The early incision of Tuffier for the extirpation of apical disease consisted of an anterior incision between the first and second or second and third ribs through which the apex of the lung was grasped, pulled through, ligated and removed by excision or cauterization. This type of operation proved unsatisfactory. At the present time the normal exploratory incison, if adhesions are absent, is preferably that suggested by Friedrich. A long incision is made over one of the intercostal spaces, reaching from a short distance of the vertebra posteriorly to the anterior axillary line or even the chondral attachment. Hemorrhage is controlled, the pleural cavity then entered and sufficient exposure obtained by spreading apart the adjacent ribs. This is accomplished by retractors or special spreading instruments. Through such an incision sufficient space may be obtained for introducing the entire hand into the thoracic cavity and for adequate visual inspection. If the space is insufficient, one or both adjacent ribs may be fractured or resected. At the completion of the operation sutures of chromic catgut are carried about the two adjacent ribs thus approximating the deeper layers of the incision. The skin is then closed after perhaps aspirating the air.

Resection of ribs is usually carried out by first separating the periosteum after which the segment of rib is removed and ligatures carried about the tissues underlying the bed of excised portion of bone close to the divided ends of rib. These ligatures enclose the intercostal vessels and permit the intervening tissues to be incised without hemorrhage. Where infection of the general pleural cavity is feared the lung may be pulled up into the wound and fastened to the wound margins by sutures. The wound is then packed with gauze and the necessary lung incision made several days later, after adhesions have formed. The application of irritants or caustics to produce adhesions is not advised. The danger of hemorrhage from incising the lung has been exaggerated. The actual cautery is unnecessary. The tissue of the lung may be penetrated by means of the knife, scissors or finger, bleeding vessels can be clamped and controlled by ligatures or mass sutures more satisfactorily than is the case with certain other internal organs. More difficult is the management of the divided bronchi which tend, because of their rigid cartilaginous walls, to remain open, producing persistent fistulas. If possible the mucous lining of the end of the bronchus should be curetted away after which the end of the bronchus is split or crushed and then sutured or ligated, or the open bronchus may be occluded by suturing over it a bit of adjacent lung or other tissue.

In the removal of an entire lobe of the lung, the large vessels at the base of the lung may be progressively caught by hemostats as the root of the lung is divided and later carefully ligated. Often a limited resection of the lung is done without opening the general pleural cavity. The diseased portion of lung is adherent to the chest wall, and is exposed by resecting one or more ribs. Usually it is desirable to do such an operation in many stages, removing the diseased tissue bit by bit. In this way a large part of a lung has successfully been removed.

The secondary pneumothorax following intrathoracic operations, especially in those cases in which the residual lung tissue will not expand, may be troublesome. If, however, there is no infection and the incision carefully closed without drainage, the patient will at times continue for an indefinite period with a pneumothorax that seems to produce little inconvenience. This is contrary to our preconceived ideas as to intolerance of serous membranes of air. If suppuration occurs, thoracoplasty, decortication of the lung or a discission of the pleura may be necessary to obliterate the space. For conditions of the anterior mediastinum the sternum may be resected without special difficulty. The bone is so soft that it may be divided by an ordinary pair of rib shears and the section turned back with an overlying flap of attached skin, or the sternum may be sectioned by a Gigli saw. Care should be taken to avoid or control the mammary arteries which run one half an inch distant from the sternal margins. By carefully separating the pleura a large portion of sternum may be raised without producing pneumothorax. If bilateral pneumothorax occurs temporary closure of the wound should immediately be done, any openings being occluded by skin flaps and moist gauze and the air aspirated. If intratracheal insufflation or some other form of positive or negative pressure method for artificial respiration be in use, the danger of operative pneumothorax may be avoided. For respiratory failure intratracheal insufflation seems at present the simplest procedure, although the satisfactory introduction of a tube of proper size to a point just above the bifurcation of the trachea can not always be readily carried out in an emergency. In an emergency forced inflation of the lung through a trachea tube is to be considered. For cardiac failure intravenous infusion with oxygenated normal saline to which is added from one to twenty drops of adrenalin solution is especially potent. If this is insufficient, cardiac massage should be employed.

Thoracoplasty. Greater attention should be given to the mobilization of the rigid thorax, as in Freund's disease, by linear resection, of five to ten centimeters of bone and cartilage at the costochondral junctions. For localized tuberculous cavities the method of producing a limited area of compression by resecting the overlying ribs as suggested by Quincke deserves further trial. This procedure may be carried out under local anesthesia without opening the pleural cavity. The more extensive operation of Friedrich in which a large U-shaped flap is raised and the ribs on the affected side, from the second to the tenth, resected without opening the pleural cavity so as to produce compression of the entire lung has, in a few instances in which it has been used, given sufficiently good results to be worthy of more extended trial. A large U-shaped flap is raised as in the Schedé operation, the ribs freed, divided at their costal attachments and twisted free from their articulation. The intercostal muscles are then removed, hemorrhage controlled and the skin flap replaced and sutured.

Before these operations are undertaken, the effects following the production of an artificial pneumothorax should be ascertained. By connecting with rubber tubing two sterilized large Woulfe bottles, one of which is filled with water, with an intermediate flask containing a strongly alkalinized pyrogallic acid solution, the air from the one bottle may be displaced and caused to pass and repass through the pyrogallic solution until the oxygen has been absorbed. By connecting the nitrogen-containing bottle to an aspirating needle introduced within the pleura, and then permitting the water of the other bottle to displace the nitrogen, an artificial pneumothorax may be produced. The gas may be rendered sufficiently sterile by filtering through a tube packed with sterile cotton. For the relief of acute traumatic hemorrhage or any other emergency condition requiring the production of an artificial pneumothorax, washed or filtered atmospheric air may be forced into the chest with satisfactory results. Even in emergency conditions, however, it is wise to measure the quantity of the introduced air by noting the quantity of water required to displace it from the containing bottle.

The entrance of the needle within the chest is indicated by the oscillations produced in a simple mercurial manometer. In the treatment of tuberculosis, Murphy, following the method of Forlanini, injected 120 cubic centimeters of nitrogen gas into the pleural cavity every two or three weeks. As a preoperative test larger and more frequently repeated injections may cautiously be employed, and in the treatment of pulmonary tuberculosis the amount used is to be gauged by the effects produced. Often several liters of gas may be introduced.

The technic of thoracic operations is undergoing marked evolution and progressive development. Much that has been learned from the experimental thoracic surgery upon dogs must be abandoned as misleading in human practice. But a very limited and incomplete reference to the subject can be given in the time limitation of this discussion.

DISCUSSION.

ON PAPERS OF DRS. LANDIS, ROBINSON AND BABCOCK.

Dr. T. Turner Thomas, Philadelphia: I have been very much interested in Dr. Robinson's work, particularly in that on empyema. My interest in empyema has been stimulated for several years because of the opportunities I have had of studying a formalin-hardened, cadaver specimen of the common and typical massive variety. I have never seen or heard of another like it and I believe that it is practically impossible to obtain such a one from the post-mortem or dissecting room. I have already shown the specimen or an illustration of it at meetings of the American Medical Association and the Philadelphia County Society and I am taking this opportunity of showing it before the state society. Because it is rare and, I believe, throws new light on the most common type of empyema, I have made it the basis of a study of this condition. It shows, in my opinion, that this massive type is not, as generally thought, general or unencysted in the sense that the pus is free to flow into all parts of the pleural cavity on changing the position of the patient. This explains why the upper level of dullness changes so little on transferring the patient from the upright to the recumbent position. The empyema is just as much circumscribed or encysted as any abscess in the abdomen or the small so-called localized or encysted empyema. It is evident that in this case the empyema extended to the bottom of the normal pleural cavity and that the eleventh rib could be excised as safely as the sixth or seventh. I believe that most massive empyemas extend as low and that in them the same rib should be excised. I excised the tenth in my first two cases and the eleventh in the last three. By introducing a long probe or grooved director, bent at the end, through a stab wound higher up, turning the end of the probe downward and rubbing the bent end against the chest wall from within at the bottom of the cavity, it can be felt on the outside through the corresponding interspace and the rib excised here, the opening being extended across the interspace to the top of the twelfth rib. Such an opening will give dependent drainage in almost any position the patient can occupy.

Dr. Robinson has told us in one of his papers that, in the very early cases, dependent drainage will be sufficient without the application of the suction or siphon principle. Most surgeons who support this method advise its use in practically every case. Dr. Robinson's method of applying suction through the opening made by trephining a rib, in my opinion, is the most effective. After studying the various other methods he shows that they usually leak air into the chest alongside the tube. It is the ideal drainage method if it works. He uses it now, however, only in very carefully selected cases. I believe that his moderation is a powerful influence in the right direction. My opportunities have not permitted me to try out the method because I have been using my limited material in studying the possibilities of dependent drainage through a small opening without devices for suction.

I suspect that if, during the after treatment, we could prevent the intake of air with which we are all so familiar, the dependent opening would provide sufficient suction or negative tension. Dr. Robinson and many others have emphasized the fact that it is the atmospheric pressure admitted through the drainage opening that counts most in preventing the reexpansion of the lung and obliteration of the empyemic cavity. They used to tell us that the rapid evacuation of the pus through the drainage opening at the time of the operation caused a dangerous alteration of pressure on the heart and surrounding structures. I doubt that, because the outflow of pus on expiration is immediately followed by an intake of air on inspiration, so that it is outflow and intake, in succession, until the space occupied by the pus is taken by air at a pressure of fifteen pounds to the square inch. Therefore, I think that the change of pressure is not as great as we have thought it to be. It is just that atmospheric pressure admitted through the drainage opening that delays the reëxpansion of the lung and the obliteration of the empyemic cavity.

Dr. John H. Jopson, Philadelphia: If this were an audience composed exclusively of surgeons it would be in order to pay much attention to the subject of stab wounds of the chest, gunshot wounds of the lung, the excision of tumors, etc., but as this is more of a mixed audience I would call attention to some points in connection with the subject of empyema, especially in relationship with the diagnosis of this condition. It is still true that a considerable number of cases of ordinary empyema and a still larger number proportionately of encysted and interlobar postpneumonic purulent collections go unrecognized for longer or shorter periods of time and are often referred to the surgeon in a condition which hardly permits of a complete recovery after operation. In a fairly extensive experience with empyema, especially in the wards of the Children's Hospital, I have seen a goodly number of encysted cases, in some of which the diagnosis was fraught with much difficulty; of interlobar collections, the infrequency of which has been emphasized by Dr. Robinson, I have seen a half dozen. In searching for collections of this type there are several factors to bear in mind. These collections, especially of the interlobar type, are often small, and the physical signs, characteristic as they may be, are often sharply localized. Dullness on percussion and a diminution or absence of tactile fremitus in the area of chest wall overlying them are the signs which serve me best. Aspiration should usually be made at the point of maximum intensity of the signs of effusion, bearing in mind, when searching for interlobar collections, the point which Fraenkel emphasizes, viz., the normal topographical relationship which the fissures of the lung bear to the chest wall and the variations on the right and left sides of the chest. It has been my experience in the large majority of cases, to see even the smallest collections demonstrated by aspiration, always using the aspirating syringe before operation. These cases are often treated as "unresolved pneumonia."

Given a history of pneumonia and a persistence of fever, or a subsidence followed by a gradual rise and we are facing some complications. The commonest complication in such cases is an empyema, and it is our duty to make every attempt to settle the possibility of such complications and not to trust to nature to help us out. Anesthetization of the tissues at the point of aspiration, infiltrating in succession the skin, subcutaneous tissues, intercostal muscles and pleura, is important, as it not only renders the operation painless, but abolishes the dangerous pleural reflex. In some cases, fortunately few, it may be necessary to open the chest without being able to demonstrate beforehand that pus is present and there are certain new methods for doing this, based on a study of physiology, which make these operations much safer to-day than ever before. I would emphasize the necessity of physician and surgeon alike making a careful study of the physical signs in every case where empyema is suspected. As an aid to diagnosis and localization, and as a preliminary to confirmation of the diagnosis by aspiration in the manner described.

Dr. Alfred Hand, Jr., Philadelphia: I regret that I did not hear all of Dr. Robinson's paper, so I may be repeating something that has been said. I refer to brief general anesthesia as a valuable measure while exploring for a suspected empyema. I do not know of anything easier to recognize than a well-marked empyema, but we often feel sure of the existence of an empyema and yet find it very difficult to get the point of the needle in the collection of pus. In my own experience, the proportion of cases needing second or third explorations seems to be less since using general anesthesia. The patient is under perfect control and does not struggle and there is time to change the direction of the needle if necessary. Since brief anesthesia only is necessary, ether and chloroform are too formal so I usually use ethyl chlorid (to which some physicians may object), although I prefer nitrous oxid if the proper apparatus is obtainable. As an illustration of the cases which are difficult to locate, there was recently a patient in the Children's Hospital presenting the signs of an empyema. A third exploration was necessary before I could find any pus. but finally I got about a quarter of a teaspoonful. Dr. Jopson resected a rib but no collection was found even with the help of a needle. I know of two similar cases, the course in all three being that a small collection of pus, either in the lung or between the lobes, worked to the surface in a few days and discharged, recovery following promptly.

Dr. Alexander Armstrong, White Haven: One point that might have been emphasized is that there are such things as frank empyemas and the prognosis of course is much better if the empyemas occur in a nontubercular subject where, it seems to me, we have an entirely different condition to face and an entirely different result to expect. If we have learned one thing in the last ten or fifteen years it is that drainage must be sufficient. We must not get our technic down so fine as to make such a small opening that we subsequently have to perform a second operation for drainage. The surgical procedure of artificial pneumothorax is interesting to the whole tuberculosis-treating world at the present, because it opens up a way of escape for that large number of advanced cases going on to a hopeless condition. We have patients going on month after month and eventually year after year with a septic temperature, with an unfortunate tendency to live when death would be welcome. In these cases, especially the one-sided cases, which we are taught are the best for this sort of treatment, and especially in those patients with a tendency to bleeding, the procedure of artificial pneumothorax seems to offer some relief. We have been using this method at the White Haven Sanatorium for about six weeks. The first thing we want to emphasize about it is, as we are amateurs, that we have had no bad results. I believe this is a method the internist is to use mainly in the future and it is a method with which the general practitioner should become familiar because he sees these cases first. Our first case was a right-sided one with extensive cavitation of upper and lower lobe, temperature reached 102 to 103° every afternoon, the pulse 130 or 140. Our visiting physicians gave us these cases with reluctance and cautioned us that perhaps there were dense adhesions. I feel that the dense adhesion theory is exaggerated.

From what knowledge I have of postmortems I have not found many adhesions along the side where you would preferably insert your needle to introduce the gas. The adhesions are along the upper lobe and around the diaphragm, points where you would not attempt to insert the gas. We have had no difficulty in demonstrating a pleural space. No one would think of introducing gas without getting the respiratory excursion on the manometer which tells whether the needle is in the chest wall, whether it has gone beyond the pleural cavity or whether there is dense adhesion. We have used it on patients almost dying, still we have had no bad result. In one particular case the patient gained two pounds in three weeks after the fifth injection. The patient before the treatment was apparently unable to expectorate, so much so that we could not get a specimen and could not find bacilli in her sputum, although there was no question of tuberculosis. Following first compression she immediately began to expectorate and the expectoration contained bacilli.

Dr. H. O. Baldwin, Dalton: I have never heard a discussion of the elastic character of the lung as a factor to be considered in draining the thorax or making exploratory puncture. Physiology teaches that elastic fibers in the lung are put upon the stretch during inspiration, making a negative pressure in the thoracic cavity, and by their constant tendency to shorten afford one of the chief forces of normal easy expiration. This being the case unless the amount of fluid in the thorax is sufficient in amount to allow a relaxation of the elastic fibers and a practical collapse of the lung, when one small opening is made the tendency will be for the thorax to suck in air rather than to allow fluid to escape. I suspect this may account for some failures to discover pus with the needle. We should expect that two small openings, one on a higher level to admit air and one on a lower level to afford exit for fluid, would afford better drainage than one opening although larger. I would like to ask if experience does not confirm this idea? I would suggest also that the patient could assist drainage through one opening and possibly also the exploratory puncture by occasional forcible expiratory efforts, holding a full breath at the same time.

Dr. Robinson, closing: I have been very much interested in the discussion and I am very glad there has been as much of it and wish there had been more. The discussion seems to have centered upon artificial pneumothorax and empyema, which are both live subjects. I am reminded of the opinions held by the late Maurice Richardson. I have tried the rib trephining method and I have tried a good many kind of tubes with one and two openings, I have tried cutting small holes high in the chest and low down in the chest; I remember his advice; from the start he looked askance at the small openings. I was explaining the different methods of draining empyema cavities to some students and he said to the students, "Make large holes, get the pus out of the chest." As I have gone on I see that he is right.

I am not prepared to give up all these suction methods for this reason. This should be foremost in our minds in intercostal drainage, resection of a small piece of the eleventh rib is sufficient with suction applied to it. But we ought as surgeons to know when these methods are not sufficient. We ought to know from the chart a patient's condition, whether our suction is complete. If it is not complete it is time to stop that method and do something else, and if worst comes to worst to make another big hole to be sure the pus runs out of the chest. I have seen results, I have reduced the length of convalescence in empyma cases where for the first three days I have employed suction through a small hole. Sometimes I have had to make the hole larger and get fibrin out and when I have done that I have not felt that my first three days of suction were time lost, but you can well see that, though advocating suction treatment personally, this is a bad treatment to demonstrate to students as the routine treatment of the drainage of empyema. All these methods are good, provided we use our intelligence in selecting the cases and use the method best adapted. Some might take an empyema case where pus has been in the chest for a year and see the patient frequently. The first thing to do is to recognize that the lung is stuck down and all the suction in the world can not touch the thick visceral pleura that is holding it there. The thing to do is to make one large hole and give instructions (tattoo on the patient's skin, if you have to) not to take that tube out until the patient is in condition for another operation. The tendency for everyone who takes a case from someone else is to shorten the tube, but the surgeon who sees the patient in the first place knows that in this case he wants the tube to stay there. Take an empyema of two weeks' duration after crisis of pneumonia, there is every reason to believe that lung should be reëxpanded. Start out to see if the lung can be reëxpanded and make an incision large enough to allow you to feel the lung. The intratracheal apparatus will show you whether that lung is plastered down or not. By stripping down with the finger the adhesions can be relieved. The hole should be placed in such a way that for the first few days you get a free in and out flow of air, so that at the first inspiration there is a slight negative. In that early kind of case rigidly applied suction is of all the more value, bearing all the time in mind that free drainage is the main thing.

In artificial pneumothorax Dr. Armstrong has brought out exactly the points I hoped he would. It is a piece of work the internist must carry on. I sometimes see cases from the surgical standpoint, but it is true that adhesions and tuberculosis do not prevent the entrance of nitrogen gas as often as we would think. In forty-five out of fifty cases one can get throughout a pleural surface of greater or less extent. If internists are to use this method they should understand that it is not as easy as aspirating fluid from the chest. As a matter of fact it is dangerous to stick a needle in the chest in a reckless manner, for if the needle enters the lung the nitrogen gas is allowed to enter the lung, and death may occur from air embolism. In other words the manometer reading must be employed with any apparatus however simple it is. The administration of air and nitrogen is all right, but if the apparatus is simple do not forget to have the manometer connected with it. When the needle point is introduced the manometer will oscillate with the respiratory excursion. Then and not until then it is safe to put in the gas.

In regard to chest cases, few of us see these cases. It was gratifying to hear Dr. Landis emphasize the necessity of early consultation. From the surgical standpoint it is lamentable that we can not handle them better than we do. but if we handle them with conservatism we will get the best results.

Dr. Torrey, closing: Our conclusions from five cases which we have recently followed to termination, three with autopsy, make us think that malignant growths of the lung are not as uncommon as we had supposed. The *x*-ray is the greatest aid in diagnosis. Unilateral distention of the superficial veins is a frequent sign: localized continued tenderness, if found over the dull area, is suspicious. While few operations have been attempted in these cases pathological findings lead us to believe that sarcoma of the lung should be open to favorable surgical intervention.

INTRATHORACIC TUMORS.

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Philadelphia.

(Read as one of the papers of the preceding symposium in the General Meeting of the Medical Society of the State of Pennsylvania, Scranton Session, September 26, 1912, by Dr. Torrey, and received by the Secretary-Editor, April 10, 1913, after the preceding pages were printed.)

From the standpoint of treatment, tumors of the lung may be divided into primary carcinoma, primary sarcoma, metastatic malignant tumors and the benign tumors. Mention must also be made of benign and malignant tumors of the pleura, and of a peculiar form of lymphosarcoma of the bronchial glands dependent apparently on the irritation resulting from the presence of certain metals in the dust of mines.

With the medical treatment of carcinoma, and particularly with the various specifics that from time to time have been suggested by various enthusiastic investigators and clinicians, this paper has nothing to do. The futility of each has in turn been demonstrated. Many suggested methods have been discarded; others, as, Hodenpyl's, not thoroughly worked out, and until some definite specific, possibly similar in principle to Wassermann's selenium-eosin treatment has been placed in the hands of the profession, the employment of medical measures must be regarded as wholly futile. It would seem that surgical measures on account of the location of the growth, and the difficulty of operations on the lung, must be equally of no avail, but this is not invariably so.

Seydel (from whose article we shall have occasion to quote) has made a careful study of fifty-five reported cases with special reference to this point. Of these cases he believes that operation might have been considered in four, and in a fifth was actually performed with satisfactory results. We have noted records of two cases of carcinoma of the lung in which operation was attempted by Kuttner, and five in which it was attempted by Lenhartz including a successful case. This latter was so remarkable that it may be briefly abstracted.

A man, thirty-one years of age, had suffered from pain beneath the border of the ribs on the right side for a year. For three months he had noticed a rapid loss of weight. There was severe irritative cough and a large amount of bloody expectoration. Dyspnea occurred upon the least exertion. There was some cyanosis of the face, and the glands in the right axilla were palpable. The physical signs indicated a large mass in the outer portion of the right lung. The sputum showed numerous pus cells, red blood corpuscles and fat granule balls. Similar fat granule balls were found in some fluid obtained by a puncture in the region of absolute dullness, and a diagnosis of softening pulmonary carcinoma was made. There was active fever exceeding 39° C. (102.3° F.). The Röntgen ray picture confirmed the clinical diagnosis. Four days after admission an incision was made, the tumor opened and drained and as much as possible of the tumor masses forming the wall removed. The histological examination by Dr. Fraenkel showed this to be a carcinoma. The patient improved almost immediately, but there was evidence of recurrence of the tumor at the edge of the wound. This man was treated with the Röntgen ray. Ultimately the patient was discharged, having gained twenty-five pounds in weight, and one year later was reported as healthy and able to work from the time he left the hospital.

According to Guyot and Parcelier the probability of favorable intervention is much greater in sarcoma than in carcinoma. These authors have gone carefully over the records of fifty-six cases of sarcoma of the lung and, from a study of the autopsy findings and clinical records, consider that seventeen of the cases might have been operable. That is, the tumor was single, more or less encapsulated and metastasis was stated to have been absent. In sarcoma the growth is usually massive and more or less encapsulated and metastasis is rare. In carcinoma the infitration of the lymph nodes usually occurs early in the disease and the tumor is more diffuse.

A patient upon whom Guyot operated for sarcoma of the lung survived one year and eight months and his pain was greatly relieved.

Garré in 1907 removed a sarcoma of the pleura weighing 1250 grams. The patient was reported well in 1911.

In addition to surgical measures there is some hope that arsenic may at least delay the growth of certain forms of sarcoma, and it appears that Coley's fluid in some cases is capable of producing beneficial results. For the metastatic tumors which seem to occur about ten times as frequently as the primary growths, nothing, of course, can at present be done. Regarding the benign tumors there is little to be said. They are rarely large and must be regarded chiefly as pathological curiosities. Should such a tumor obtain sufficient growth to cause symptoms, it is altogether probable that it could be removed with safety. Pean has removed a fibroma weighing 1200 grams involving the pleura, and by Tuffier an angioma.

An early and exact diagnosis of malignant disease of the lung may be of considerable importance in the class of patients whose financial circumstances are limited. If a malignant case is considered as tuberculosis the preparation for prolonged residence in a sanatorium may cause hardship to the family by reason of the efforts to provide for useless treatment. The correct recognition of malignancy in the lung also may prevent contest of the industrial insurance policies so generally carried by the working classes.

All things considered, primary carcinoma of the lung is less uncommon than we supposed. By combining various statistics we have been able to collect 87,451 autopsies among which 130 primary carcinomas of the lung were found; that is, of 100,000 deaths 156 are caused by cancer primary in the lung. Rolleston believes this figure too high and indeed is skeptical regarding the occurrence of primary carcinoma of the lung, but in consideration of the eminence of the pathologists who were responsible for these reports and particularly in consideration of the extraordinary experience of Lenhartz, whose assistant, Muser, has reported no less than twenty-four cases from the service, this skepticism appears wholly without justification.

Figures regarding metastatic growths are less complete, but there is reason to believe (Seydel) that they occur approximately ten times as frequently as the primary growths and therefore that in 100,000 cases there would be between fifteen and sixteen hundred deaths from this cause. We have not been able to obtain nearly as extensive statistics of sarcoma of the lung. Seydel in 10,829 autopsies that he studied found twenty primary carcinomas and only eight primary sarcomas. Rolleston on the other hand in 3983 autopsies found three primary sarcomas and no carcinomas. Regarding the frequency of secondary sarcoma of the lung we have been unable to obtain any definite figures.

Among the cases we report there is one of metastatic hypernephroma. Indeed metastasis of hypernephroma of the lung appears to be relatively common. Of twenty-two cases of hypernephroma reported by Wooley thirteen showed metastasis of the lung.

Among the general symptoms pain is exceedingly common. Of the forty-five cases in the articles of Reinhart and Muser that we have classified, it was stated to be present in twenty-six, and some of the reports are purely pathological and therefore no symptoms are given. This pain appears to be of pleural origin and usually indicates the situation of the tumor. It may, however, be localized in the hypochondrium, in the shoulder and occasionally if there is pressure upon the brachial plexus it radiates down the arm.

Tenderness, however, appears to be extremely rare. It is mentioned in only two of the cases and in both instances was sternal. It may therefore have been due to some other factor than the tumor. It was, however, a very prominent symptom in two of the cases that we will report and it has seemed to us that a careful search for this symptom would probably reveal it more frequently than the case histories indicate. Temporary hyperasthesia over a pleuritic area is common in tuberculosis but this tenderness is rarely permanent, while in our two cases continued tenderness was a very striking sign.

Dyspnea is exceedingly common.

Cough is practically invariable and the cough is nearly always accompanied by copious expectoration.

Night sweats are mentioned in five of the cases and were probably more frequent.

Insomnia is frequently mentioned and appears to have been one of the most distressing symptoms. It is certainly due, in a large part, to the dyspnea.

Vertigo is only mentioned twice, in one case depending upon metastasis to the cerebellum, and in the other case the symptoms indicated metastasis to the brain, but it is not stated in the notes of the autopsy whether this metastasis was found.

Cachexia occurred in nearly all cases. In three, however, it is especially stated that the nutrition of the patient was not impaired and that they remained able to work until a very short time before death.

Among the physical signs the most striking on inspection are cyanosis, a general thoracic edema, dilatation of the cutaneous veins and supraclavicular swelling. The latter may be due to metastasis of the supraclavicular lymph glands on the same side as the tumor, but sometimes is the result of a dilatation of the subclavian vein and its branches. This is mentioned particularly in eleven cases.

Metastasis to the axillary glands is also moderately frequent in carcinoma.

Pleural effusion is mentioned less frequently than we anticipated and is usually bloody.

The physical signs vary so greatly that it is useless to attempt to classify them. The percussion note if the tumor is at the surface is usually spoken of as being peculiarly flat. A tympanitic note has, however, occasionally been observed. It may be possibly explained as the result of a transmission of a bronchial resonance by the dense tumor mass, possibly by some alteration in the tension of the wall of the chest. Upon auscultation stridor is heard far more frequently than in tuberculosis or aneurysm. Râles are extremely common and may be of any or all types. Various signs result from pressure upon adjacent organs, such as dysphagia, edema of the upper half of the body, paralysis of the left vocal cord and dislocation of the heart or liver or both. Interference with the circulation by compression of an artery does not appear to occur. Phrenic paralysis we have not found mentioned. In two of our cases we have noted a striking change in the physical signs apparently varying with the position of the patient and probably depending on the change of relation of the various structures to each other and to the chest wall and we have assumed that they are the result of the weight of the tumor mass.

A great deal of attention has been paid to the character of the sputum. This has been variously described as prune juice, raspberry or currant jelly like, but Epstein denies that these have any diagnostic significance. Blood, however, is very frequently present, usually in the form of streaks upon the mucoid or gelatinous expectoration or occasionally in the form of massive hemoptysis. Recognizable masses of tumor cells are rare but suspicious cells have often been observed. Muser lays great stress upon small ball-like masses composed of fat granules (the Fettkoernchenkugeln), which he found almost invariably in the sputum and quite frequently in the fluid obtained by puncture of a softened cancerous mass. It must be remembered that tuberculosis is occasionally associated with carcinoma of the lung and sometimes, therefore, tubercle bacilli are found in the sputum and may confirm the diagnosis. The most certain method of diagnosis is, of course, exploratory operation and the removal of a portion of the growth for histological examination. This can only be done under exceptional circumstances, although Lenhartz has attempted it, as we have said, five times, and of the four unsuccessful cases one patient survived fifteen days and one two months.

The *x*-ray gives us more diagnostic aid than any other measure. Particularly in sarcoma the dense well-outlined mass is clearly shown.

Exploratory puncture is often unsatisfactory and carries a certain, though slight, risk. The discovery by aspiration of a sanguineous effusion is always suggestive of a tumor.

While the diagnosis of metastatic growths would seem to be of diagnostic interest only, it must be remembered that metastasis may and does occur long after the removal of a primary growth and without recurrence at the original site, and that the economic importance of differentiation from tuberculosis is identical in the common metastatic manifestations and in the rare primary growths.

Of the five cases we present, two were apparently primary and three metastatic.

Mrs. L. S. was referred to one of us by Dr. Martha G. K. Schetky with a history of having had a severe cough for two weeks associated with swelling of the left side of the neck. The physical examination showed a well-nourished woman, the conjunctiva, lips and tongue slightly cyanosed, the left supraclavicular space filled by a large smooth rounded mass which extended about one and one half inches above the clavicle. The swelling was elastic in consistency, did not pit on pressure, and was very slightly tender. It did not move when the patient swallowed, nor when she breathed. It could be passively moved. The cervical glands were not palpable. There was no swelling on the right side. The apex beat was in the fifth interspace inside the midclavicular line. The area of cardiac dullness was not increased. The heart's action was rhythmical and the rate 144. The sounds were slightly muffled. There were no murmurs and no accentuations. The sounds were heard better on the right side of the neck than on the left. The pulmonary resonance was normal. The respiration was vesicular. The expiration was short. Vocal resonance was more distinct on the right than on the left side. Posteriorly the lungs were normal. The blood pressure was systolic 127 and disastolic 70. The tendon reflexes were active. A diagnosis was made of a tumor probably deeply situated, involving the upper portion of the left lung and the superior mediastinum, and the patient was immediately referred to Dr. G. E. Pfahler for *x*-ray examination. This showed an irregular shadow in the upper portion of the left lung, a mass much larger than the comparatively slight physical signs in the upper portion of the chest led us to believe. We did not see the patient again but Dr. Schetky furnished us with the following notes:—

"The cough continued and became more severe, paroxysms were elicited if the patient used her arms. The voice was slightly hoarse and muffled, the larynx being swollen and the vocal cords thicker than normal. Dyspnea was present on exertion and grew steadily worse until the end. The pulse was always rapid, never less than 100. The face, arms and chest were swollen in October but the swelling almost disappeared for a short time during November, possibly due to the establishment of a collateral circulation. In December the swelling returned. In January the dyspnea increased very greatly, the whole body became swollen and cyanosed, and the pulse was about 140. From that time there was general persistent orthopnea, the dyspnea increased with the general swelling and cyanosis and she died apparently of suffocation upon the first of February, 1911, conscious until shortly before her death." No autopsy could be obtained.

Mr. T. B. H. was brought to one of us by Dr. James W. Wister with the following history: In May, 1910, he had consulted Dr. Wister regarding a laryngeal cough and excessive dyspnea on exertion. Previous to this time he had been in good health but apparently easily annoyed by the trivial details of his occupation which was that of president of a bank. The examination at this time showed a normal temperature, somewhat rapid pulse, an apex beat displaced one and one half inches to the left with marked increase in the area of cardiac dullness. The lungs were apparently normal. The blood pressure was 190 systolic. The urine contained a trace of albumin and some hyaline and granular casts. During the summer on active treatment the symptoms remained about the same, but he had lost weight and complained of a good deal of oppression upon even moderate exertion. During the winter, however, he improved. The blood pressure diminished to 165 systolic. The dyspnea seemed to be a little less. The first sound of the heart improved in quality, but the area of dullness did not decrease. The urine showed more albumin and more casts. During all this time his appetite had remained excellent, his digestion was good, the bowels were regular and he was not disturbed at night to urinate. He complained of pains in the shoulder especially on the right side which he supposed to be rheumatic and which he stated had existed for some time.

The physical examination was as follows: Pupils were equal and reacted freely to light. There was a distinct subconjunctival edema and slight subocular fullness. The tongue was normal. There was apparently a slight enlargement of the thyroid gland. The brachial arteries were tortuous but the pulses were equal and the heart's action rhythmical. The pulse rate during the time of the examination was about 104. The area of cardiac dullness was enlarged. There was in addition an area of absolute dullness which was bounded by a line drawn from the junction of the fifth interspace and the right midclavicular line obliquely upward to the junction of the second rib and the sternum, then obliquely downward to the left, merging with the upper border of cardiac dullness at the third rib. There was a doubtful pulsation felt over this area. The apex beat was in the fifth interspace and displaced outward to the extent of the anterior axillary line and rather broader than normal. The heart sounds at the apex were loud first, a faint second and a faint short systolic murmur. Over the pulmonic cartilage two faint sounds were heard. Over the aortic cartilage a faint first sound, a rather long systolic murmur and a moderately loud second sound were heard. In the vessels of the neck there was a distant systolic murmur and a loud second sound. The percussion note on the left side was resonant, over the right side distinctly impaired. The expansion was equal. The breath sounds were vesicular on both sides but fainter on the right. There was cog-wheel inspiration on the right side. Posteriorly the lungs were normal with the exception of numerous subcrepitant râles at the right base and some impairment of vocal resonance at the right apex. The lower border of the liver could be distinctly felt about two inches below the costal margin, otherwise the abdomen was normal. The blood pressure was 176 systolic and 91 diastolic. An *x*-ray was taken by Dr. Pancoast and apparently confirmed the diagnosis of intrathoracic tumor. There was some question, however, whether the upper mass might not be an aneurysm. A fluoroscopic examination was not made.

The patient was placed upon mercury and the iodids in the hope that these might be of some benefit but he steadily grew worse. Then, accepting the view of a tumor, possibly originating in the glands surrounding the root of the lung and probably sarcomatous in nature, he was treated with daily injections of sodium cacodylate. He at first manifested marked improvement, the cough and expectoration almost entirely disappeared, the dyspnea was very much better and he gained moderately in weight. He seemed to be unreasonably encouraged. A second *x*-ray was taken at this time and apparently indicated some diminution in the size of the shadow. He went to Maine for the summer and while there the dyspnea became suddenly very much worse. Dr. Wister was summoned and saw him shortly before his death. At that time there was an intense dyspnea and a sense of oppression. Death occurred in the course of a few days. No autopsy was obtained.

A third patient, admitted to the University Hospital on March 26, 1910, was referred to one of us as a case of tuberculosis. This patient showed very marked involvement of the lung and pleura with little cough and no expectoration. She complained of pain on the right side which had begun two weeks previous with a sudden onset. She had been working until that time and was in her usual health. With the sudden onset of pain there was some cough, shortness of breath and extension of the pain to the back, neck and arm, on the right side. After being under observation for two weeks she was admitted to the hospital. The notes taken at that time are as follows:—

"The family history shows nothing of interest. The patient was born in Ireland and came to this country when a small girl. She has worked as a chambermaid, waitress and cook. She had the usual diseases of childhood, but never had pneumonia, typhoid or scarlet fever, or diphtheria. She has had for the last eighteen years a large abdominal tumor which has not given rise to symptoms, except that at times she noticed the weight of the mass which is not as large as it was seven years ago. Menstruation began at fifteen years, was regular. Menopause one year ago. At the time of admission, cough had diminished, the pain persisted, the temperature 97.2, pulse 100, respiration 28.

"The physical examination showed a fairly well developed, somewhat emaciated adult white female of about forty years of age, though she appears somewhat older. The patient sits propped up in bed. The breathing slightly hurried and there is a mild degree of dyspnea. Occasionally she coughs, but there is no expectoration. The patient is somewhat pale and the skin hangs in folds. There is no cyanosis or edema. The supraclavicular fossæ are quite deep. The clavicles are prominent. There are no glandular enlargements, abnormal pulsations nor tracheal tug. The pulse is regular. The heart is normal. Anteriorly the pulmonary resonance extends to the fourth interspace on the right side, to the third rib on the left. Posteriorly it extends to the tenth dorsal spine on the left and to the angle of the scapula on the right. Over the whole right base there is dullness to percussion but movable dullness could not be demonstrated. The tactile fremitus over the dull area is about equal to that over the left base. The breath sounds are vesicular throughout except at the right base. There are numerous subcrepitant râles at the end of inspiration. At the right base the breath sounds are bronchial in character. The vocal resonance is increased and there is distinct pectoriloquy. The liver and spleen are not palpable. The abdomen is irregularly rounded, prominent and pendulous. The greatest prominence is just below the umbilicus. The patient shows the presence of a large irregular mass on the right side of the abdomen about seven by three inches in diameter. The general direction is downward, forward and toward the median line. It is of smooth rounded outline and movable in all directions. It can be forced into right kidney pouch and seems distinct from the mass of similar character situated to the left of the midline. The mass to the left is not irregular in outline and extends down almost to the crest of the pubis. Palpation just above the pubis shows the presence of a small rounded hard mass which from position and immobility is thought to be a uterine fibroid. There is no tenderness or rigidity of the abdomen. The tumor masses are not tender to pressure and give no referred pain when moved. The lower extremities show no edema. The reflexes are normal. Urine, specific gravity 1.030, no albumin, no sugar, an occasional hyaline cast. The blood hemoglobin 53 per cent., red cells 3,500,000, leukocytes 12,000. Differential count polymorphonuclear cells 71 per cent., lymphocytes 22 per cent."

Two days after admission a puncture, made in the eighth right interspace, yielded a small amount of bloody fluid which was sterile to culture and under the microscope showed red cells. The dullness at the right base increased and the signs of fluid became more marked. Two weeks later a pint of thick bloody fluid was extracted. There was increasing dyspnea and the cough now became continuous. At no time was there any expectoration. The patient became gradually weaker and died on April 25, four weeks after admission.

The autopsy performed by Dr. Veeder showed almost the entire right lung replaced by a tumor mass consisting of friable and blood-stained material, more dense toward the root of the lung. The diaphragm had been pushed downward. What lung tissue was left was merely a shell enclosing the tumor mass at the extreme apex of the pleural cavity. The left lung was practically normal except for one small nodule in the upper lobe. The abdominal tumors had their origin in the uterus. The mass on the right resembled a fibroma in consistency. It was connected with the uterus by a fibrous pedicle and occupied about the position of the right kidney and showed some soft degenerated areas.

Pathological diagnosis: A fibroma of the uterus, sarcomatous degeneration, and metastasis to the right lung, which shows a large spindle cell sarcoma.

On referring to the notes taken before admission to the hospital we find that this patient showed a very marked tenderness in the right axillary region.

A fourth case probably shows metastasis to the lung. C. L. was referred to the medical wards of the Philadelphia Hospital coming from the surgical department where he had undergone an amputation above the right knee for pain, swelling and more or less destruction of the knee joint. The patient's knee had received a slight injury thirteen weeks before admission to the hospital. Swelling commenced in three weeks with slight pain. Both the pain and swelling increased and amputation was decided as the only means of relief. Unfortunately histological examination of the tissues from this knee joint was not made. The clinical diagnosis was tuberculosis of the knee joint. On admission to the medical ward, October 13, the patient complained of pain in the chest, cough and expectoration and dyspnea.

"Examination shows a young adult male, fairly well developed, very anemic, with lemon-tinged skin. The percussion note is impaired at the left apex. Below the second rib on the left for a distance of about two inches from the sternum there is a hyperresonant area which changes to a marked impairment laterally. The breath sounds are harsh down to the second rib with blowing expiration over the hyperresonant area. Inspiration is exaggerated while expiration is not heard. In the axillary space expiration is prolonged and harsh and some moist râles and a friction rub can be heard. On the right side there is impairment of resonance from the apex to the bottom of the third rib, below this there is dullness that becomes absolute at the fourth rib near the anterior axillary line. The right axillary space below fifth rib is dull and on palpation extremely tender. There is no edema of the skin. The breath sounds on the right are slightly muffled at the apex. Over the dull area the breath sounds are rather rough and expiration is prolonged. Tactile fremitus and vocal resonance are normal on the right side and increased on the left side at the apex and along to the left of the sternum. The liver is tender. Otherwise the abdominal examination is negative. The stump is well healed."

The patient coughed a great deal and raised bloody sputa that were negative for tubercle bacilli. Owing to the peculiar signs and absence of cardiac dullness it was thought that the heart was pushed to the right, but an *x*-ray showed the heart in its normal situation. The sputum was like currant jelly. The patient gradually became weaker and had repeated slight attacks of hemoptysis. An interesting change in the physical signs occurred when, on turning the patient on the right side, the cardiac dullness appeared in its normal position and there was a strong apex beat.

This patient died about three weeks after admission to the medical ward. At the autopsy there was found a massive involvement of the right lung, the base of which was replaced by a soft and friable tumor mass invading the pleura and separated from the upper part of the lung so that it lay loose in the pleural cavity. The left lung was partly infiltrated by tumor tissue. There were a few nodules in the liver, some dense fibrous adhesions across the pericardium and some small areas of bone formation in the tumor mass. Section of the lung showed a sarcoma.

Case five is of interest partly on account of the extensive metastasis, partly because of the symptoms manifested during the latter stages. The patient, a physician, sixty-five years of age, was admitted to the Presbyterian Hospital on January 3, 1912. He was profoundly emaciated and complained only of persistent diarrhea. The physical examination aside from the emaciation and a moderate arteriosclerosis revealed no definite lesion. The peristaltic signs were very active. The urine contained some leukocytes, red blood cells, a few granular casts and a trace of albumin. No sugar was found. The leukocytes were 7700, hemoglobin 70 per cent. A stool was examined and reported to contain neither blood nor bile. A Wassermann reaction was negative.

No treatment had any effect upon the diarrhea nor could any definite cause be found to explain its existence. The anemia rapidly grew worse and five days after admission the first count of red blood cells was 2,840,000. Two differential counts of the white cells were normal.

A diagnosis of chronic colitis was made and Dr. Jopson at my request performed an appendicostomy in order that the colon might be more thoroughly washed, but in spite of careful lavage the diarrhea continued as severe as before. On January 15 occult blood was found in the feces. Tubercle bacilli were not found. The patient had no cough and no expectoration. There was no fever. Indeed the temperature throughout the course of the disease was subnormal. On February 4 he died.

At autopsy the gastrointestinal tract was normal. There were no gross changes in the liver, spleen or pancreas. There were some soft jelly-like masses over the surface of the heart. Both lungs contained nodules particularly large in the left upper lobe. The right kidney was greatly enlarged, weighing 610 grams and consisting of yellowish soft masses. The left kidney was normal. The mesenteric and mediastinal glands were greatly enlarged.

The pathologist at first made a diagnosis of tuberculosis, but upon microscopical examination this was changed to that of a cortical type of hypernephroma.

The interesting features of the case were first the diarrhea, evidently toxic in character or the result of some irritant excreted by the intestines presumably as a result of the hypernephroma (this apparently was the chief cause of the patient's death); second, the absence of sugar. There is some question as to whether a hypernephroma can produce symptoms of suprarenal hyperactivity. In this case the blood pressure was low, although the record has apparently been lost. This would be against suprarenal hyperactivity. Had the diagnosis been suspected during life a test for alimentary glycosuria would have been made, but it was not suspected and the opportunity was therefore wasted. After the first physical examination the patient was so weak that no further physical examinations were made for fear of producing too great exhaustion. Addison's disease was suspected and although there was no pigmentation of the face or hands it was looked for on the mucous membrane of the mouth and not found.

The differential diagnosis is to be made from a variety of conditions. Among these the most important are tuberculosis, aneurysm, gangrene, gumma of the lung and abscesses, and various rare parasitic conditions. There is no very sharp line of demarcation among these various morbid processes. Carcinoma of the lung resembles tuberculosis of the lung from the fact that the sputum is hemorrhagic, hemoptysis frequently occurs and often there is fever. The continued absence of tubercle bacilli on repeated examinations by a competent laboratory man is to our minds suggestive that the process is not tubercular. The presence of fat granule balls described by Lenhartz may be of value. With regard to the rapidity of cachexia, no conclusions can be drawn nor are the physical signs in any way decisive. A negative tuberculin test would be in favor of carcinoma, but a positive reaction would neither exclude it nor suggest tuberculosis. An *x*-ray picture apparently is more trustworthy as an indication, the shadow usually being in the neighborhood of the root of the lung and more massive than the shadows of the enlarged lymphatic glands usually found in this region. It must be remembered, as we have already stated, that tuberculosis and cancer of the lung are occasionally associated and therefore the finding of tubercle bacilli does not necessarily exclude carcinoma, although successfully to make a diagnosis during life in such a condition would seem almost impossible. An exploratory puncture may be of some value in malignant tumor of the pleura. The fluid is usually hemorrhagic. This is rare in tuberculosis. If the needle enters the cancer mass, fragments of the cancer tissue or masses of fat granules may be obtained, from which the diagnosis might be made. In secondary carcinoma the existence of a primary growth is of course suggestive. If no external growth exists, the presence of esophageal stricture probably due to a carcinoma would also be of importance.

In conclusion we desire to emphasize particularly, first, the occurrence of local tenderness in the chest over the site of the tumor; second, the occurrence of supraclavicular swelling, and its importance as a sign of tumor in the upper part of the chest; third, the frequency of intrathoracic tumors as shown by statistics, and also the value of the *x*-ray as a diagnostic aid.

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THE DIAGNOSTIC AND THERAPEUTIC VALUE OF NEEDLE PUNCTURE OF THE MAXILLARY SINUS.

BY HERBERT M. GODDARD, M.D.,
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(Read in the Section on Eye, Ear, Nose and Throat Diseases of the Medical Society of the State of Pennsylvania, Scranton Session, September 25, 1912.)

A procedure for diagnostic and therapeutic measures which has not received the recognition it deserves at the hands of the specialist, except in isolated instances, is the probatory puncture of the maxillary sinus by means of the Lichtwitz needle. Every surgeon who treats antral diseases has his favorite method of entering the maxillary sinus through the nose and it is surprising to note the seriousness with which this procedure is generally viewed.

This can be partly explained by the fact that instruments of large caliber, notably the Krause trocar and its various modifications, are those usually chosen. These require considerable force for their introduction and cause more or less pain and shock to the patient, to say nothing of the unnecessarily large opening created through their use. For this reason many men hesitate to use this procedure for purely diagnostic means. Therefore I wish to call especial attention to the exploratory puncture with the Lichtwitz needle and the attending ease with which it is performed. While the introduction of a trocar must be viewed as a minor surgical operation the introduction of the needle is in reality nothing more than a routine office procedure.

TECHNIC.

The anterior end of inferior turbinate and especially that portion of the lateral nasal wall beneath are painted with a twenty per cent. solution of cocain, the cotton carrier being bent to more easily reach the roof of the inferior nasal passage. In ten minutes the parts are sufficiently anesthetized. Introduce a Lichtwitz needle, working the point beneath the inferior turbinate until it is about half way back, then elevate the point by depressing the hand until it reaches the attachment of the turbinate with the lateral wall of the nose. Press the shank of the needle firmly against the septum and push firmly upward and outward. A common source of failure is to direct the point of the needle too far downward, thus encountering the thick part of the wall.

The needle point should be directed toward the posterior part of the eyeball. A sudden penetration with the crackling of bone and the fixation of the needle against the septum will show that the procedure has been successfully accomplished. The needle should now be slightly withdrawn to disengage the point from the swollen mucosa of the opposite side and air injected into the cavity by means of the syringe. This injection of air may fail for several reasons: (1) There may be a spicule of bone caught in the aperture of the needle in which case it must be taken out, cleansed and again introduced. (2) The needle-point may be imbedded in hypertrophied tissue or even a polypoid mass, under which circumstances it must be further withdrawn and more pressure applied to syringe. (3) The middle turbinate may be so swollen and the ostium so occluded with polypoid tissue that the fluid does not easily return; in these cases a constant increasing pressure on the syringe usually brings the fluid out, often with a decided spurt. (4) The needle may have penetrated only the mucous membrane of the lateral nasal wall and glided along the bone. (5) The needle may have penetrated both walls of the antrum and appeared beneath the skin of the canine fossa. (6) The presence of intraäntral polyps, which by valve-like action blocked the ostium from within.

Occasionally even though the needle be properly introduced, it is most difficult to push it through the bone, in which case it must be reintroduced and the attempt again made on another place.

VALUE OF METHOD AS A DIAGNOSTIC MEANS.

There is no method which will give one more reliable conclusions than to introduce the needle beneath the inferior turbinate into the maxillary sinus and wash out the cavity. By this means we are informed whether inflammatory secretion was present within the antrum, for any exudate must appear with the outflow of the injected liquid. Cases of maxillary sinusitis without any exudate are so rare as to deserve no recognition in this paper. Very frequently the mere introduction of the needle and injection of air will convince one, by the odor emitted, that putrefactive changes have already taken place within the cavity.

One of the most reliable of all diagnostic signs is the sound produced when the air is injected into the cavity, a procedure which should never be neglected. This is the peculiar bubbling noise caused by the air being forced through the exudate. When this sound is present it can be considered pathognomonic of sinus disease. In a certain number of cases, however, this sound will fail for several reasons. In the first place we should recollect that, even though the needle be introduced low down in the inferior nasal passage, the needle point will emerge about half the distance between the floor and the roof. Under these circumstances it will be necessary for the exudate to fill the antrum above this line, else the needle will penetrate above the "water line." The injection of salt solution will, however, quickly determine this condition when present as it freely mixes with the secretion and brings it out with the return flow.

Much valuable information will be gained from the appearance of the return flow of the injected liquid. If the pus appears crumbly and of an intensely fetid odor, we can safely say that considerable pathological changes have taken place in the sinus mucosa and that in all probability an operation of more or less severity will be demanded. If the pus shows itself to be thick and ropy, not mixing with the solution, a more favorable prognosis can be anticipated, as experience has taught us that these cases are the most amenable to intranasal treatment on account of the slight changes of a pathological nature which are present within the antrum.

There is, however, one point which the needle puncture may fail to establish, and if overlooked will prove a stumbling block of the very first order; this is, whether the sinus inflammation is the result of inflammation from the root of a tooth. Logan Turner states that these cases can always be recognized by the especial fetor of the secretion. Such, unfortunately, has not been our experience and we rely on nothing less than a thorough examination of the teeth of the affected side, using the *x*-ray if necessary to further and substantiate our diagnosis.

If the secretion in the antrum has resulted from the inflowing of pus from diseased overlying sinuses, the needle puncture will quickly disclose this fact, as in the vast majority of instances the sinus mucosa will remain unaffected and the sinus cavity merely act as a receptacle. One or, at the most, two irrigations will entirely clear up the condition and, on nasal examination, purulent secretion will be seen in the middle nasal passage when we are certain that the maxillary sinus is free from exudate.

Much has been said regarding needle puncture with aspiration. This, in our opinion, is of little practical value, as it is often impossible to draw the secretion into the syringe. The reasons for this are manifold. In the first place the consistency of the exudate prevents its passage through the narrow lumen of the needle. Secondly the point of the needle often is above the surface of the pus and thirdly the mucosa may be so swollen as to prevent the needle coming into contact with the secretion. Not only these difficulties are encountered but, from the negative pressure caused, the pain is often unbearable.

VALUE AS A THERAPEUTIC MEASURE.

It will depend entirely upon what pathological changes have taken place within the antrum as to the value to be obtained by lavage through the Lichtwitz needle. If the pus shows changes in consistency and amount, thus changing from a crumbly, cheesy mass into a mucoid or semi-jellylike mass, we should be encouraged to continue the irrigations *ad infinitum*. Unfortunately, however, it so often happens that these changes occur and then become stationary and, despite our every effort, fail to heal. We should yet remember that many cases have been reported cured after injections varying between fifty and one hundred.

Only recently there appeared in one of the French journals the report of a case completely cured by twenty-seven intranasal injections, which had resisted several years of washings out through the alveolus. How long should we then continue the injections before advising an operation? That depends on a great number of circumstances as indication will vary in different individuals. For instance, suppose we had a case of severe antral suppuration in a patient who found it impossible to give the time and expense incidental to a course of treatment. The indications here would be clearly different from those in a patient in affluent circumstances suffering from the same affection. In the former it would be necessary to institute a procedure which would offer a speedy and certain cure while in the latter it may be necessary to continue the mildest measures until both the patient and physician were thoroughly convinced that nothing but more radical measures would succeed.

In the main one can say that if no change either in the amount or consistency of the secretion or the subjective symptoms of the patient is apparent after ten punctures with lavage it is then advisable to consider one of the various forms of intranasal operations.

UNTOWARD RESULTS FOLLOWING THE NEEDLE PUNCTURE.

That this procedure is not always unassociated with dangerous sequelæ has unfortunately been shown by several recent reports from eminent rhinologists.

Hajek reports one case of apoplexy followed by death in thirty-six hours and another of subperiosteal abscess in the canine fossa with metastatic abscess in the left hand. This patient recovered after the radical operation of the maxillary sinus.

Claus reported two deaths immediately following needle puncture. One of these was due to apoplexy and the other through the result of poisoning by cocain, as no pathological lesions could be found at the autopsy.

Kronenberg reported a case of subperiosteal abscess in the canine fossa which some days later ruptured spontaneously into the mouth, the patient recovering.

Culbert of New York reported a case of septic pemphigus and death a month after needle puncture in a case of chronic antral suppuration. Despite these exceedingly rare results we consider the needle puncture in the inferior meatus properly carried out as a minor procedure and free from danger, as in many hundreds of cases we have yet to experience one alarming symptom.

CONCLUSIONS.

1. Exploratory needle puncture beneath the inferior turbinate is by far the best means at our command for diagnosis in antral empyema.

2. As a therapeutic measure in all cases of acute suppuration its importance can not be overestimated.

3. In chronic suppuration it is often of great value as a curative means.

4. It is practically without danger when skillfully accomplished and should be practiced in every case of suspected sinus disease.

BILATERAL PANSINUSITIS: OPERATION; THROMBOSIS; MENINGITIS: RECOVERY.

BY M. DELMAR RITCHIE, M.D.,
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(Read in the Section on Eye, Ear, Nose and Throat Diseases of the Medical Society of the State of Pennsylvania, Scranton Session, September 25, 1912.)

Frank C., a husky teamster of forty-eight, came into my office December 12, 1910, because of pain in left frontal area, and requested that his left nostril be cleared of polypi. He had been in the habit of having a local rhinologist remove polypi from both nostrils annually, but thought he would have them removed this time by another physician. Examination showed both nares filled with mucous polypi with much pus in nasopharynx and anterior nares. Transillumination showed absence of both pupil reflexes, and the only sinus to show clear was the right maxillary. Patient was informed that the polypi were only symptoms of a more or less serious underlying condition, and it was decided to remove the cause if possible. In order to give some possible immediate relief to left side, large quantities or polypi and part of middle turbinate were removed on the occasion of his first visit. Anterior ethmoidal cells were very soft, frontal sinus easy of access, and much sanguineous pus drained.

Retention symptoms were considerably alleviated during ensuing few days. December 17 many polypi and middle turbinate were dealt with in same manner as described for left side. Ethmoidal cells were also found necrosed, and large frontal drainage for much pus was easily secured. When the inflammation incident to the above manipulation had subsided sufficient for observation, both sphenoids were found to be filled with pus. Sanguinous pus continued to flow from both frontals, while that from the sphenoids and left antrum, while creamy, was without the bloody feature. Persistent douching and local treatment for three weeks brought about no marked change in character or quantity of pus.

Headaches increasing, patient was sent, January 8, 1911, to Dr. Russell Boggs for *x*-ray observation. Sinuses were outlined and confirmation of clinical findings secured, as heretofore detailed. Urine was negative and staphylococci were found in nasal pus. (I have never opened a sinus, examined with *x*-ray by Dr. Boggs, without finding disease when he said it would be there.)

At Columbia Hospital, Drs. Dillinger and Pollock assisting, under ether anesthesia an Oggston-Luc operation was done on each frontal sinus, postnasal plug having been inserted. Right sinus was completely filled with pus and granulation tissue. Left frontal was filled two thirds with tissue that had every physical property of pedunculated mucous polypi immersed in pus. Sinuses were of approximately same cubic dimensions. Anteroposterior measurements were greater than usual. Floors of both sinuses were on same plane. Seven millimeters from respective floors there was a communication between cavities of about twelve millimeters in circumference, larger than caliber of lead pencil. Anterior bony walls were thoroughly removed and, after cleansing sinuses, careful observation of all walls, posterior in particular, brought out no dehiscence. Under full illumination, middle and posterior ethmoids were exenterated by way of anterior nares. Nasal communication through infundibula was enlarged to general diameter of five millimeters. Anterior walls of both sphenoids were ablated by long-shanked, heavy curets through frontal communication. Sphenoids were gently cleared of granulation tissue with Coakley's fine curets. Frontals were wiped out with fifty per cent. alcohol, wicks placed into nasal communication and external incisions sutured. Original plan was to operate on right side only, it being the side with active symptoms. Intersinus communication necessitated attacking both sides.

Patient was in fine condition, and it was elected to operate on the remaining infected sinus, left maxillary. The Caldwell-Luc operation was done in the usual way. Sinus was filled completely with same polypoid material bathed in pus as in immediately overlying frontal. Some soft ethmoid cells, one large cell in particular, were removed by curet through maxillary route. Sinus was thoroughly cleansed, bathed in alcohol and packed with compound tincture of benzoin gauze, distal end of packing engaged in left vestibule, and mucous membrane sutured. Patient was on operating table two hours, twenty minutes for preliminary anesthesia; he left table with temperature, 99; pulse 110; and respirations 28.

Postoperative temperature during night was 104.2° but patient slept well. Temperature receded gradually in first twenty-four hours to 99°. Maximum temperature during first six days was 100.2°, minimum 98.4°. Throughout the period of six days, convalescence pursued the usual progress. Frontal wicks were removed on afternoon of second day, and maxillary packing, sweet, was removed on third day. Maxillary was repacked with iodin gauze after alcohol douche. No pus was coming from any sinus that had been operated on. Patient sat up in bed the fourth day, went to toilet the sixth day. I visited him at 2 P.M. on the seventh day on my way to operating room, and he made inquiry about leaving hospital the following Monday. At this time temperature was 99°, pulse 80, and respirations 24. When I returned to his room in two hours he did not recognize me, nor did he hear my voice. He was sitting upright in bed, head bent forward to left side, right arm straight and supinated over side of bed. Saliva dribbled from left angle of lips, neck was rigid, right arm and leg spastic. When addressed loudly spoken questions, patient answered incoördinately. At 6:30 temperature was 104.3°, pulse 130, respirations 42.

Patient refused nourishment, and intensity of headache was manifested by constant tossing of head, and placing of left hand on forehead. There was more or less constant intolerance to light and sound, contracted pupils, and delirium; head was retracted.

Dr. C. A. Wishart's ophthalmoscopic findings at 8:30 of same day were negative.

Tenth day Dr. T. M. T. McKennan, who went over the case from neurologic standpoint, was at first inclined toward a solution in the continuity of one of the bony walls. A little deliberation, however, caused him to concur in the thrombotic etiology of meningitis.

I was somewhat inclined at first to the belief that the middle turbinate had been taken away too high on left side, and that infection had traveled by way of the spaces around the olfactory nerves. The length of time (eight days) elapsing, however, before pressure symptoms were manifested, seems to exclude that theory. Dr. McKennan did not approve of spinal puncture, and localization was awaited.

One grain of calomel was given hourly for ten hours, and one half bottle magnesium citrate every two hours for three doses, starting two hours after the last calomel. For twenty-two days after the tenth day regurgitation usually followed any attempt at swallowing, so that rectal alimentation was the rule. It was necessary also to make use of the catheter. Head was packed in ice practically all of these three weeks, during which time the temperature maximum was 105.4°, minimum 99.3°, with the typical daily intermission. Pulse went 164 on twenty-first day, respirations ranging from 32 to 40. Twenty grains of urotropin were given daily. Twenty grains of potassium iodid were also given daily when they could be administered. Delirium persisted throughout first ten days, but cleared on eleventh and fourteenth days for short periods.

We were fortunate in securing good elimination most of the time. With the aid of careful nursing, meeting of symptoms as they arose, and finally with the good luck of a Gibralter of a constitution, our patient gradually recovered after three weeks of a gallant fight. When seen at my office August 16, 1912, patient stated that he had been teaming for fourteen months.

I am indebted particularly to Dr. C. O. Anderson, the personal physician of the patient, who was most attentive and helpful throughout.

DRAINAGE OF ACCESSORY SINUSES IN ATROPHIC RHINITIS.

BY JOHN F. CULP, M.D.,
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(Read in the Section on Eye, Ear, Nose and Throat Diseases of the Medical Society of the State of Pennsylvania, Scranton Session, September 25, 1912.)

The importance of efficient drainage of the larger accessory sinuses in many cases of atrophic rhinitis has not, in my opinion, been sufficiently recognized by authors of textbooks on nasal diseases or by physicians in their treatment of these conditions. A very considerable number of patients with this disease wander in vain search of relief from the office of one physician to another. While the writer does not contend that simple drainage of the sinuses effects a permanent cure of a disease, the pathology of which is still obscure, yet this procedure gives so much relief that many of these unfortunate sufferers consider themselves completely restored to health after good drainage of the affected sinuses has been accomplished. The pathological conditions, both macroscopic and microscopic, found in atrophic rhinitis are such as to make it impossible to always diagnose between this condition and chronic suppurative sinusitis, especially where the discharge in the latter condition is small in amount and where there is considerable atrophy of the membranes. Fortunately a refined diagnosis between these two diseases is not essential, since the treatment is the same in both, *i. e.*, the proper drainage of the affected sinuses.

That there is much diversity of opinion regarding the causative factors of atrophic rhinitis can not be denied, and it must be admitted also that the actual pathology of this very common affection still remains open. Zufall believes that a congenital deficiency is responsible for this disease, and Musser thinks a congenitally broad or shallow nose with the consequent development of pavement instead of columnar epithelium to be responsible.

Berliner holds an opposite view and ascribes the condition to nasal obstruction with pressure of the middle turbinal against the septum, causing defective secretion.

Haberman, B. Fraenkel and Krause contend that the cause is due to a fatty degeneration of the acinous and Bowman's glands, with a later fibroid degeneration of the mucous membranes, this in turn causing atrophy.

Our own Bosworth holds to the theory that purulent rhinitis of childhood stands in casual relation and, personally, the writer is inclined to this view for he has seen quite a goodly number of children with purulent rhinitis who later in life developed all the symptoms of atrophic rhinitis.

The disease has been attributed also to the action of many different organisms, the two most prominently mentioned being the pseudodiphtheria bacillus and *Bacillus mucosus capsulatus.* This latter bacillus is regarded by some as responsible for the odor and formation of crusts. In Vienna some ten or twelve years ago some of the teachers regarded atrophic rhinitis as the final stage of chronic hypertrophic rhinitis. While this is no doubt occasionally true, the majority of cases are primarily atrophic from the very beginning. Many of these cases probably ought to be classed as those due to cyanotic engorgement, and as such have a general cause, such as heart, kidney or liver disease.

Williams of London holds the view that "the affection is a chronic inflammatory degeneration of the nasal mucous membranes due to infection by various organisms, and in some cases determined by conditions of the nature of a trophoneurosis, which like acne vulgaris is often connected in some obscure manner with sexual development or sexual involution at the time of the menopause."

Many German observers, the foremost of whom is Grunewald, believe that accessory sinus disease is always the cause of the atrophy and resulting ozena. This view has rapidly gained ground in recent years and, in popular opinion, is the one most credited at the present time. Skiagraphs made of the sinuses in atrophic rhinitis show cloudiness very much the same as in sinusitis. Ballenger and Joseph Beck of Chicago have invariably found this to be the case, *i. e.,* the outline of the sinuses is badly defined and the area of the cavity is opaque. While we may have atrophic rhinitis without ozena, and ozena or a bad smell without atrophy, these two conditions usually are found associated in varying degrees, and measures which will relieve the one will benefit the other. To attempt to cure this disease without at the same time making it impossible for fetid masses to accumulate in the cavities opening into the nose is an absurdity. It is much like trying to heal a deep-seated abscess by cleansing off the outside discharge.

The writer does not contend that all cases of this disease need free opening of the sinuses, but he does believe that a very large proportion of these patients will be benefited by such procedures followed later by cleansing treatment, and in support of this contention he submits a history of the following cases, which emphasize the importance of good drainage of the large sinuses in this disease:—

Case 1. Lady, aged thirty-eight years, suffered for years with nasal discharge, crust formation and odor. She had been treated by various specialists without permanent benefit. Being of a refined nature her trouble caused her no end of worry and chagrin. After months of the usual treatment at my hands, she was prevailed upon to have the antra opened. This was followed by so much relief that she readily consented to have both of the sphenoidal sinuses freely drained. Since then, at home, careful cleansing with alkaline solutions has made her quite comfortable. Crust formation has disappeared as well as almost all the odor. She now calls to see me once a year, where previously she had treatment once and often twice a week.

Case 2. Lady, aged thirty-three years, had nasal discharge, with crust formation, odor, impaired hearing, headache, anemia. Both antra were opened and freely drained. Opening was made beneath the turbinates without sacrifice of turbinal tissue. A considerable quantity of offensive débris was removed by washing. Great relief of all symptoms followed, and daily irrigations of these cavities at home has maintained this improvement. She is able to follow her profession as schoolteacher with satisfaction to herself and comfort to her associates and pupils.

Case 3. Young woman, aged twenty years, had been forced to give up her position in a store on account of bad odors. She had had much treatment since childhood without benefit, and complained of headache, dizziness, restless sleep, loss of appetite, anemia. Examination of nose showed extensive crust formation in right nostril. Odor was typical of ozena. Anterior end of ethmoid, which was cystic, was removed, and ethmoid cells curetted. Much degenerated tissue was found. The right maxillary sinus was then freely opened, and this was followed by removal of the anterior wall of the right sphenoid. Operations were performed two years ago. Her health has been completely restored, and the local symptoms have been vastly improved. This case in my opinion started as a one-sided purulent rhinitis in childhood. Had the sinuses been freely opened some years before much of the atrophy of the membranes, which is now permanent, could have been prevented.

Case 4. Lady, aged seventy-two years, complained of a bad cough, frequent cold, dropping in throat, crust formation in left nostril and said her family complained of a bad smell. Examination revealed extensive atrophy of all the membranes of left nostril. After careful cleansing, a bead of pus was seen in the opening of the left sphenoid sinus, as well as some thick pus in the middle meatus. Exploratory needle puncture was made in the left antrum. The findings were such as to justify free drainage of this sinus under the lower turbinate body. The anterior wall of the sphenoid was later removed. The cleansing treatment which she is able to give at home makes her quite comfortable. Last winter, which as we know was unusually severe, caused her less discomfort than she had known for years. Her cough has vastly improved, and her family say there is scarcely any odor now. It would seem that this was an empyema of the sinuses from the start, and that the extensive atrophy found was caused by the constant presence of pus on the membranes.

That suppurative rhinitis of childhood can originate from a local infection, and that this suppurative inflammation can later develop into a true atrophic rhinitis with odor, the following case illustrates in a typical manner.

A child of six years was brought to the dispensary of the Harrisburg Hospital with a discharge of greenish-colored pus from left nostril. This discharge had persisted for two years, and was not relieved by the treatment of physicians in the country district where he lived. A foreign body was removed from the nostril, which proved on careful examination to be a grape leaf that had been carefully folded and put into the nose two years before. The child when he had grown to be a big boy of thirteen years returned for treatment of a catarrhal condition. The left nostril presented a typical picture of atrophic rhinitis, and the odor left no room for doubt about its being ozena.

It would be very easy to give additional histories of many other patients with atrophic rhinitis, who have been benefited by free drainage of the sinuses. Enough has been said, however, to emphasize the fact that much can be done to relieve these unfortunate sufferers if we treat each individual case on its merits. For several years Cobb of Boston has been treating cases of ozena with an autogenous vaccine, and has found much to encourage him in this line of research treatment. His results at the time he read his last paper on this subject, a few months ago, were not, however, conclusive.

In the writer's opinion the final solution of successful treatment of this distressing and unpleasant disease will be found along the line of vaccine therapy. In the meantime in the absence of a specific treatment it behooves us as specialists in nasal disease to apply the principle of surgical drainage to every affected cavity found in the nostrils. When we have done this we will do much not only to relieve our patients suffering with atrophic rhinitis, but also to dispel much of the opprobrium attached to its present unsatisfactory treatment.

THE TREATMENT OF SUPPURATION OF THE ANTRUM OF HIGHMORE.

BY E. B. GLEASON, M.D.,
Philadelphia.

(Read in the Section on Eye, Ear, Nose and Throat Diseases of the Medical Society of the State of Pennsylvania, Scranton Session, September 25, 1912.)

Authors estimate that the teeth are responsible in from three to thirty per cent. of antrum suppurations. As long ago stated by Cryer, root abscesses with but few exceptions point and break into the mouth. Unfortunately, dental caries is so common that it is not easy to select a tooth as the cause of the suppuration nor prove that devitalized teeth are not the result but the cause of antral disease. The only absolute proof that empyema is definitely due to dental disease is its speedy cessation after removal of a tooth, which sometimes occurs within a few days, even in cases where other forms of treatment have been unsuccessful.

The ostium of the maxillary sinus lies at the bottom of the infundibulum beneath the bulla ethmoidalis. Unlike the other accessory nasal cavities, there are not infrequently one or more other openings into the antrum through its nasal wall. Occasionally, such an accessory ostium is readily probed; and, in empyema, the pus washed out by means of a hooked cannula inserted through this natural opening. As for the ostium, its situation at the bottom of the infundibulum, covered both by the unciform process and the middle turbinate, renders it so difficult of access, especially when the mucous membrane is swollen, that the pain and trouble of introducing a hooked cannula through it is not worth while.

The mucous membrane of all the accessory sinuses is covered by ciliated epithelium so arranged that secretions, dust and bacteria are quickly swept from the sinuses through the ostia into the nose; hence, the comparative rarity of sinus suppuration, in spite of the fact that congestion and mild catarrhal inflammation of one or more of the nasal accessory sinuses is not unusual in acute coryza and is manifested by characteristic face-ache or headache, which subsides spontaneously if the virulence of the infection is not sufficient to destroy the epithelium and the ostium remains patulous. Therefore, chronic purulent inflammation of the antrum is usually the result of some focus of infection discharging into it, as, for example, the frontal sinus, the anterior ethmoid cells, a gangrenous tooth pulp, or, more especially, prolonged occlusion of its ostium. Pain is proportionate, not to the amount of pus contained in the antrum, but to the degree of "vacuum congestion" produced by the absorption of oxygen from the air of a sinus hermetically sealed by the closure of its ostium. Many cases of facial neuralgia are associated with antral suppuration because of the course of the second division of the trifacial nerve and the proximity of Meckel's ganglion.

As spontaneous resolution usually occurs in acute catarrhal cases as the result of transient closure of the ostium maxillare, treatment in this class of cases should be of the most simple character. It is well to secure purgation by divided doses of calomel, and, if necessary, secure relief from pain by the local application of heat. A piece of cotton saturated with five per cent. cocain in 1-1000 adrenalin solution should be inserted beneath the middle turbinate and allowed to remain for ten minutes, after which the antrum can usually be inflated with chloroform and menthol vapor in the manner employed for inflating the middle ear. If the procedure is successful, there will at once be relief of antral pain and the procedure should be repeated each day until all symptoms of inflammation of the antrum subside. The cure is hastened by the daily application by the surgeon of a twenty-five per cent. solution of argyrol beneath the middle turbinate. The patient should spray this region every two hours with a 1-10,000 or 20,000 solution of adrenalin. However, as some of the solutions of adrenalin are irritating and followed by a very decided reaction, better results are often obtained from the use of a snuff consisting of menthol, bicarbonate of sodium and magnesium, cocain and sugar of milk.

When great improvement does not follow the first or second treatment outlined above; it will be necessary to remove accumulation from the antrum by syringing. A steel Lichtwitz needle is thrust through the nasal wall beneath the inferior turbinate at the middle of its suture with the nasal wall and the antrum washed out as described in the previous paper. In this position is the so-called soft spot, where the bone is so thin that the needle can be thrust through it with scarcely more resistance than would be required to push a needle of the same size through the skin. After thorough cocainization, the procedure should cause no more pain than an hypodermic injection. If much resistance is encountered, it is probable that the point of the needle is too far forward or too low down, and its position should be corrected. If it is still impossible to thrust the needle into the antrum, one or two light blows with a mallet will overcome the difficulty. Before attempting to enter the antrum, the shank of the needle, with the portion of the nasal septum against which it rests, should be bent as far as possible toward the other side of the face, so that the point of the needle shall enter the bone as nearly perpendicularly as possible in a direction upward as well as inward.

A two-ounce piston syringe is then fitted to the needle by rubber tubing and air is syringed through the needle into the antrum and escapes through the ostium with a characteristic bubbling sound if the antrum contains fluid. If it is impossible to syringe air into the antrum, either the needle has not entered the antrum, its lumen is occluded by a spicule of bone, or the ostium is closed by a polypus or swollen mucous membrane, so that it can not be forced open by the pressure of air syringed into the antrum. The exit of a few drops of pus from the needle will indicate that the needle has entered the antrum and as much should be aspirated as possible and some normal salt solution should be thrown into the antrum and withdrawn. When no pus flows from the needle, it should be withdrawn slightly and an attempt again made to syringe air through it. Should this fail, the needle is thrust forward until the bony wall of the antrum is encountered, then partly withdrawn and an attempt made to syringe air through it, because in some instances the mucous membrane is so swollen that it nearly fills the entire antrum. If it is impossible to syringe air through the needle it should be withdrawn and examined to be assured that its lumen is not occluded by a bony spicule. Should this be the case, the lumen of the needle is cleansed and it is again thrust into the antrum. If it is now impossible to force air through the antrum, the difficulty is occlusion of the ostium.

Before attempting to wash out an antrum, it is advisable in most instances to reduce swelling of the mucous membrane in the region of the ostium by inserting a piece of absorbent cotton, saturated with two per cent. cocain in 1-1000 adrenalin solution, which is allowed to remain in position during the time the mucous membrane beneath the inferior turbinate is being cocainized for the needle puncture. When cocain and adrenalin applied to the mucous membrane in the neighborhood of the ostium does not render it patulous, the parts should be carefully inspected and probed. It is possible that a small polypus will be brought into view and prove to be the cause of the difficulty, or that the middle turbinate so firmly presses against the lateral wall as to occlude the ostium. Under these circumstances, the blades of either a long Killian speculum or a suitably shaped pair of forceps are thrust between the lateral wall of the nose and middle turbinate, and, when opened, the middle turbinate gives way with an audible snap. It is fractured at its base and is pushed away from the lateral wall toward the nasal septum, where it remains permanently. This procedure is often followed within twenty-four hours by so great a reduction in the swelling of the mucous membrane of the infundibulum that the ostium is no longer occluded or small polypi attached to the edge of the unciform process are brought into view and may be removed.

I have dwelt somewhat at length upon the obstacles to lavage of the antrum of Highmore by needle puncture and the importance of the middle turbinate region in diseases of this cavity because the subject is generally somewhat slighted in the textbook. Ordinarily, air is syringed through the antrum without difficulty after needle puncture. The syringe is then filled with sterile normal salt solution which is thrown through the needle into the antrum and escapes into the nose. The syringing is repeated until the fluid no longer contains pus. The antrum is then freed as far as possible from the normal salt solution by syringing air through the needle, which is then withdrawn. Needle puncture and lavage of the antrum is repeated daily for six to twelve days, when the cure is ordinarily complete in acute, uncomplicated cases. There is little or no pain after the first treatment and pressure soreness over the antrum rapidly subsides. If the antrum pus, at first well mixed with the normal salt solution of the daily syringing, becomes more mucoid in character, and comes away in one or more masses that do not readily mix with the surrounding fluid, it is a sure sign that a cure will not long be delayed. In former years, I have injected into the antrum nitrate of silver, solutions of argyrol and other substances; but lately I have found cleansing with normal salt solutions amply sufficient to bring about a cure in cases that did not require a radical operation.

In acute cases resulting from the infection of the antrum by a gangrenous tooth pulp, it is generally advisable to extract the tooth. This alone, with or without needle puncture lavage, is often sufficient to bring about a cure. The antrum can be readily opened from the mouth by enlarging with a conical drill an inner tooth socket of either the second premolar or first or second molar tooth, or an opening can be made from the mouth through the canine fossa into the antrum. In elderly individuals, the bony antral wall of this locality is often as thin as writing paper and is readily penetrated with a knife. These procedures, have been popular until recent times. There are many objections to the Cooper operations and my feeling is that it should be limited to those cases where extensive necrosis of the alveolar process renders opening the antrum imperative. Under such circumstances, the antrum is opened with the curet and rongeur forceps, and the openings should be sufficiently large to permit the introduction of the little finger. Ridges of bone, one of which usually extends from the second molar tooth to the nasal wall, if sufficiently well developed to interfere with drainage should be removed, and greatly thickened mucous membrane or polypi should be scraped away with the curet. The cavity should then be washed out with normal salt solution and packed for forty-eight hours with iodoform gauze. Even large openings from the mouth rapidly close unless kept open with a plug, preferably of hard rubber, the wearing of which is a considerable nuisance to the patient but which has the advantage that he can remove it, blow air through the antrum by closing his nose, and wash out his antrum through the oral opening as often as necessary. This opening should not be allowed to close until all secretions from the antrum have ceased, a termination that does not occur for years in some of the chronic cases; but in spite of its disadvantages, thousands of cases have been cured by this method.

Ample drainage from the antrum may be secured by a large opening beneath the inferior turbinate with or without the removal of its anterior third. The general rule is that the larger the opening, the longer it remains patent, but the patency of any such opening can be maintained indefinitely by the use of a rasp or Wagner's punch. Under such circumstances, there is the ostium above and the artificial opening below, and the antral secretions readily find an exit into the nose by gravity, there being no negative air pressure to hold them in that cavity. The backward and forward respiratory currents probably also exert a gentle suction upon the contents of the antrum, so that frequent lavage of the antrum is not necessary to free it of its secretions; which, however, can be readily accomplished by the physicians or the patient by means of an eustachian catheter.

There are various methods of making such large openings from the nose into the antrum. The simplest and the one which I have used for some years is that of Wells, who employs a trocar and cannula with a rasp or coarse file on one side of the cannula. Lately I have had constructed an instrument the ends of which are slightly curved and of the diameter of No. 18 of the French catheter scale. There is a rasp for one and one half inches on the concave surface of each end, one of which is probe-pointed, the other a sharp triangular point. This triangular point is placed upon the "soft spot" and a few half turns cause it to cut its way into the antrum. As the instrument is withdrawn the rasp on its concave surface cuts away a considerable amount of the thin naso-antral wall, so that the probe end of the instrument is readily inserted into the antrum to rasp away a portion of the wall at least the size of a dime. The after-treatment consists of a daily irrigation through an eustachian catheter either by the surgeon or the patient. Should the opening in the naso-antral wall tend to close by exuberant granulations, these are readily removed by the rasp.

Intranasal operations on the antrum are successful in cases where the antral mucous membrane is not sufficiently diseased to be incapable of regeneration and where there is neither necrosed bone nor polypi, but in a large proportion of cases, one of the external or radical operations is necessary to bring about a cure. The object of these operations is to remove every particle of diseased mucous membrane and partly obliterate the antrum by granulation tissue before the mucous membrane is finally replaced by an ingrowth from the nose. The most popular of the radical operations are the Caldwell-Luc, devised by Caldwell of New York and Luc of Paris, and the Denker operations, which, without attempting to describe the technic, are briefly as follows: An incision is made through the tissues to the bone at the junction of the lip and jaw from the third molar to slightly beyond the central incisor. The periosteum is elevated from the canine fossæ and the entire anterior bony wall of the antrum up to the supraorbital foramen removed. The antral mucous membrane is then inspected by sight and touch and as much of it as seems damaged beyond repair removed. The bony nasal wall, including the inferior turbinate, is then removed as high up as the nasal orifice of the lacrymal duct. The remains of its nasal mucous membrane is then bent into the antrum to supply as far as possible that portion of the antral mucous membrane removed; the flap is retained in position by a stitch or the packing of iodoform gauze. The Denker operation differs from that of Caldwell-Luc to the extent that the anterior angle of the antrum is obliterated by chiseling away the nasal process of the superior maxilla from the floor of the nose to the level of the infraorbital foramen. The wound is packed loosely with selvaged-edged iodoform gauze, the end of which projects from the nostril. About one half is removed through the nose in twenty-four hours and the rest on the second day after the operation. The after-treatment consists in gently syringing the wound through the nose with normal salt solution for some days. The healing is ordinarily uneventful.

THE EXPLORATORY OPENING OF THE SPHENOID SINUS.

BY CHARLES P. GRAYSON, M.D.,
Philadelphia.

(Read in the Section on Eye, Ear, Nose and Throat Diseases of the Medical Society of the State of Pennsylvania, Scranton Session, September 25, 1912.)

I have omitted from the title of my paper any reference to one of the principal reasons for which it has been written. Although a great deal has already been said, there is still, I think, sufficient excuse for saying something further concerning the conservation of the natural resources of the nose, and it is the methods now commonly employed both in the diagnosis and treatment of disease of the sphenoid sinus that furnish me with the excuse if not, indeed, the provocation. I do not propose either to enumerate or to emphasize the physiological functions of the nasal mucosa. That is a subject with which we have so long been familiar that I am afraid even this passing reference to it may be resented. Nevertheless, completely as we may realize and admit the abstract functional importance of this membrane, yet, when we are called upon to deal with a concrete example in which some portion of it interferes with our examination or our treatment of any structure posterior to it, is it not the usual surgical tendency to sacrifice it with slight regard for the possible pathological consequences?

Excluding a very moderate number of cases in which the removal of a portion of it is indispensable and therefore justifiable, I wish to consider a much larger number, in which more or less extensive areas of the mucosa are unnecessarily removed, cases in which the end does not justify the means, or, to put it differently, in which the end may be accomplished by means much less objectionable.

Within very recent years our knowledge concerning the pathology of the sphenoid sinus and its pathological relation to contiguous and neighboring structures has been so widely extended that it is now investigated with a greatly increased frequency. Our attention is now attracted to it at once by a number of symptoms which, scarcely more than a half dozen years ago, would probably have failed to cast even a shadow of suspicion upon it. It is because of its common participation in the disease processes involving the nose, the epipharynx and the other accessory sinuses, and particularly because its own diseased conditions both in their immediate and remote effects are capable of being so much more serious than the others, that anything that might simplify and facilitate its examination would be of distinct value. Naturally, one of the chief characteristics of any such procedure should be safety.

I think we will probably be unanimous in regarding the situation and anatomical environment of the sphenoid sinus as making it a decidedly unsafe place for the average general surgeon to exercise his energies, but is there anything in these two features that should occasion the least timidity on the part of the rhinologist? Given an accurate knowledge of the locality, a reasonable degree of technical skill, and even a smattering of common sense, I can not see that the specialist runs any more risk in opening the sphenoid sinus than when he enters the frontal or the maxillary.

Nor am I quite able to appreciate why we should be so very particular about entering it solely by way of its natural opening. The same difficulty confronts us here as in dealing with the antrum, the small size and unfavorable location of the normal ostium in each case. When it is essential that we enter the antrum, however, for either diagnostic or therapeutic reasons, we no longer sacrifice a sound tooth in order that we may drill through its socket, but we make instead a simple puncture through the internal antral wall beneath the lower turbinate. When the same necessity arises in connection with the sphenoid sinus, should not a similar regard for the conservation of valuable tissue induce us to spare the posterior half or even third of the middle turbinate, by which the natural opening of the sinus is concealed, and enter it instead by means of an equally simple and safe puncture at the lower and internal portion of its anterior wall? In the absence of any obstructive deformity of the upper part of the septum, there are remarkably few cases in which, with the aid of cocain and one of the adrenal preparations, this portion of the anterior wall of the sinus can not be well exposed, and the opening that is made at the point I have indicated has this very great advantage over the intranasal puncture of the antral wall,—that it is made practically at the level of the floor of the cavity.

Are there any dangers to be feared in the performance of this slight operation? I know of none. Of course, we all know what might happen if it were attempted by a ponderous or an unskilled hand, but I am addressing men and women whose eyes and hands are trained for the safe performance of much more delicate and hazardous operations than this, and I do not think it unreasonable to assume that only such will undertake it.

The instrument that I invariably use is a hand drill. It is tipped with a burr and has a straight, slender shaft of such length as to be easily manipulated by the hand without obstructing the view. The opening that it makes is of sufficient size to give immediate exit to any fluid or semifluid that the sinus may contain and to permit of subsequent irrigation should it be advisable. There is no pain; there is nothing that can be called hemorrhage; there is no shock. If the patient has been sent by the internist or the ophthalmologist for a diagnosis, he returns the same day or even within the same hour with a positive or a negative report, and, if it be the latter, within twenty-four hours the wound will have closed and all trace of it been almost obliterated. Have the other diagnostic methods in vogue any advantage over this? Are they easier, more rapid, more conclusive, or attended by less risk? To all these self-proposed questions I would answer with an unequivocal no, and if this procedure has any disadvantage or objectionable feature I have yet, after some years of experience, to discover it.

If one be apprehensive of some structural anomaly affecting these sinuses, a series of skiagraphs taken from different angles will not only prove amply reassuring as to their anatomical features, but the skillful interpretation of the plates may furnish some valuable information as to any pathological condition that may exist. As to anomalies of structures, however, I can scarcely imagine one that would introduce an element of risk into the making of this exploratory opening. The operator will need no more than that modicum of common sense to which I alluded a moment ago to restrain him from any incautious use of his instruments, and I need scarcely mention the fact that the point at which the opening is made is the one most remote from the danger zone. If the sole merit of this route of entrance to the sphenoid sinus were its preservation of the middle turbinate from repeatedly unwarranted destruction, it would have excellent reason for meeting with general approval, but when in addition one thinks of its economy of time and perhaps suffering, is there not sufficient reason for its becoming, at least in diagnosis, almost a matter of routine? Radical as it is in its results, as a method it is the exemplification of conservatism.

DISCUSSION.

ON PAPERS OF DRS. GODDARD, RITCHIE, CULP, GLEASON AND GRAYSON.

Dr. Ross H. Skillern, Philadelphia: Dr. Goddard, in speaking of the procedure of needle puncture of the maxillary sinus, did not mention the difficulties sometimes encountered in getting the needle into the sinus. I have noticed, time and time again, in certain patients (particularly those with atrophic rhinitis), that in spite of the most earnest endeavors, it is difficult to force the needle through the bone. I have frequently had the shank of the needle sink into the fleshy base of my thumb, so as to cause not a little pain. The proper procedure in such a case is to take the needle out and try to introduce it in another portion of the bone. Sometimes three or four attempts were necessary before I succeeded, and I have occasionally been obliged to take a mallet and give the needle a slight tap. These cases, however, are great exceptions, and in the majority of instances, when the point of the needle is in the proper position, it will glide in without difficulty.

Dr. Goddard was in the midst of speaking of the dangers coincident with needle puncture, apoplexy, epilepsy and other fatal results of heart trouble, and so on. I have never seen the slightest untoward symptom following needle puncture in more than one thousand cases. The cases that came nearest to it were in the practice of a colleague in Brooklyn, who wrote me that he and his assistant had had a case of apoplexy and one or two of epilepsy following this procedure. I believe that such results are due more to the unnecessary force used in pushing in the needle than to the actual introduction of the needle itself. I do not see how a needle puncture could bring on a case of apoplexy.

Dr. Culp's paper was extremely interesting because it brought up a subject that the most distinguished German authorities seem to know very little about; that is, the relation of atrophic rhinitis to sinus trouble. The bacillus of Abel probably has something to do with the disease, because the pathologists have been able to find this bacillus in the discharge. Dr. Holmes and I tried the vaccine treatment in these cases. He was able to isolate the *Bacillus mucosus capsulatus*, but could not grow it, except in an attenuated form; therefore we could not obtain a culture sufficient to make a pure vaccine. On this account, we had to content ourselves with a mixed vaccine of the various known organisms of suppuration, together with this *Bacillus mucosus capsulatus*, in order to get it in an intensified form. The cases at first invariably improved, particularly in children. This was done without any local treatment, because we desired to make it impossible for anyone to be able to criticize the result by saying that the local treatment had done the good and that the vaccine was merely incidental. The patients for a time invariably became better; and then suddenly the vaccine seemed to lose its influence in spite of ascending doses, the condition in a short time returning to its original form.

There is a difference between atrophic rhinitis and pure sinus empyema. In the former, in the ordinary case in a child, you can cleanse thoroughly the nostril on one side and allow the child to remain in the office a while; and in the course of half an hour, you will see small punctiform dots all over the affected mucosa. These become larger and larger, and finally coalesce, and the typical crust forms on that spot. This can not be found in true sinus empyema, because the pus comes from a reservoir which must fill up and overflow, and then the purulent secretion comes down in a stream. It is possible to follow this stream and find the reservoir of pus.

Dr. G. R. S. Corson, Pottsville: With regard to Dr. Culp's paper on sinus disease in relation to atrophic rhinitis, I have in mind one case in particular that was very much like the one he has cited. A woman came to the Jefferson Hospital, while I was in service there, who had gone through several hands before she came to me, and I quite agreed with the diagnosis made by the others. After some time, however, I discovered a slight line of demarcation along what I thought to be a hump on the nasal septum; but, on examining further, I found that the middle turbinate was hypertrophied and elongated, and adhered to the septum on both sides. On freeing it and pushing it over to its place (I was very loath to remove tissue in atrophic rhinitis), I obtained drainage from the sinus, and the woman recovered. It was one of the most marked cases that I have ever seen.

I believe that the cause, generally, of atrophic rhinitis is a mechanical one. I think that if the turbinate bones, the nasal fossæ and nares are in the right relationship, there will be very few cases of atrophic rhinitis, which may account secondarily for the effects on the sinus disease. The structural defects may cause the sinus disease, and indirectly the atrophic condition.

Regarding Dr. Ritchie's paper, I would say that I had a case in point; a Hungarian, an intelligent fellow, came to my office and presented to me two *x*-ray plates of his own head that he had had taken in Vienna. He had been under the care of and operated on by Pulitzer, who had removed a part of the middle turbinate on the left side, and the man had a marked ethmoid sinusitis. He complained of persistent headache, tenderness and dizziness. I treated him locally for a long time, and finally removed the remainder of the middle turbinate under general anesthesia, and thoroughly curetted the sinus; the man recovered. He had had drainage, but not sufficient

I believe that the question of sinusitis is largely a question of drainage, and in that relation, and in relation to Dr. Goddard's paper, I will say that I continue the needle puncture and the withdrawing of the pus with the needle longer than ten times, as he suggests, because

I believe that after the condition has been established for some time, lavage ten times is not sufficient before resorting to a more radical operation.

Dr. C. M. Harris, Johnstown: With reference to these papers on antrum diseases, it occurs to me that it may be well to emphasize what I think is the fact, that acute antrum troubles are not hard to deal with. They are air cavities; we perforate them, and draw the pus out by suction apparatus or other means, and we can often get along without irrigation. The chronic empyemas teach us to have a great respect for antrum troubles, and remove a deal of conceit that accumulates in us after treating the acute cases. In my experience with chronic empyema, some have refused to succumb to any treatment and others have recovered quite easily. I believe, however, that ventilation and drainage are the two things that we should emphasize most, and not lose sight of the fact that hyperplastic ethmoiditis is often responsible for antrum trouble. The middle turbinate will often give signs of what is going on in other parts of the ethmoid labyrinth, as well as the maxillary antrum.

Dr. Goddard's selection of the point of entrance of his instrument, I think, is a good one. The wall becomes thinner at the junction of the inferior turbinate with the nasal wall. I am inclined to use the method of Dr. A. H. Andrews of Chicago, which consists of perforating the naso-antral wall with a right-angled knife. The middle meatus is chosen because the wall is very thin. A small eustachian catheter is inserted, and practically all the pus can be blown out of the cavity through the natural opening. Polyps may interfere with this of course. The objection has been made to such knives on the ground that one may perforate the orbit. The attachment of the middle turbinate usually marks the location of the floor of the orbit; and if the knife is used below that point and well back, the antrum will be entered.

With regard to the treatment of antrum disease, I recently read a report by Dr. Lutz of Brooklyn who instills dilute alcohol, fifty per cent., and even stronger after previous cleansing of the antrum. I have used it lately and the patients improved very much; but whether this improvement will go to the point of cure, I do not know. It is, however, well worth trying.

In Dr. Ritchie's paper, I noticed that he made reference to polypi. I wish to mention that polypi are often removed and nothing else done. Modern rhinologists would not, however, stop at that point. They insist upon removing the diseased parts generally. There is always a diseased ethmoid. We often find affected ethmoidal cells that have been obscured or some maxillary-sinus trouble that we have not suspected before. I want to touch upon the method of removing these cells with adrenalin and powdered cocain. You can then determine what you are doing with the particular ethmoid cell under consideration, as a rule.

As to Dr. Grayson's paper, his scheme is rather novel to me. I think it a good one, especially in selected cases. One should have thorough control of the drill, or whatever instrument he uses, and know the anatomy of the parts. The sphenoid is rather atypical in many cases, and we may expect to be disappointed at times. I find a small eustachian catheter very convenient. By means of it, the normal orifice may be entered by going between the turbinate and the septum.

Dr. Howard F. Pyfer, Norristown: In all these antrum cases, I think that it is very essential to wash out the nose first with a postnasal syringe, so that we may not be led astray by thinking that the discharge comes from the antrum. Also, one should use adrenalin before the twenty per cent. cocain. I have had no bad results since I have done this.

I should like to ask whether Dr. Goddard uses a straight trocar or a curved,hollow needle. I have given up the use of the straight needle, because of the bruising of the septum. I do not attempt the daily washing out of cheesy pus. In such cases, I advise the patients to have an immediate radical operation. I do not consider this a severe operation. It is simply a matter of using a large Krause trocar, puncturing under the inferior turbinate, and leaving a permanent opening. In atrophic rhinitis, operative work has always proved unsatisfactory in my cases, but I have not often found the maxillary involved in atrophic rhinitis. The sphenoid seems to me to be the sinus that is involved the most frequently.

From Dr. Ritchie's paper, the lesson to be learned is that we should not remove polyps and operate again within less than ten days; because the natural resistance is broken down, and the patient is liable to meningitis or other septic conditions.

In relation to Dr. Gleason's paper, I would say that I have continued to use aspirin, as I said a year ago. We get the best results from fifteen to thirty grains, or even higher doses in acute cases. I never use menthol snuff; although it gives a temporary relief, the latter condition is worse. I never open the maxillary sinus through the mouth. It is far better to open through the inferior turbinate. I do not keep in my packing after doing so for over twelve hours. Rasps are not painful in these cases. The opening, if made freely with the rasp in the sphenoidal, the frontal and the maxillary, stays open.

The electric drill I no longer use in the nose because the necessarily long shank makes the burr wobble. The injuries done to the soft tissues certainly would not be considered conservative.

Dr. G. M. Coates, Philadelphia: Dr. Ritchie was more fortunate in the outcome of the interesting and instructive case he has just reported than I was in a case of intracranial infection from the nasal accessory sinuses, which I reported briefly last spring before the Philadelphia Laryngological Society. As was pointed out by Dr. Skillern of Philadelphia in a paper at Cambridge Springs three years ago, the avenues of possible infection are many and the chances great in neglected cases and following operations, and the wonder is that there are not more of them. It would seem probable that there are many more such cases than are ever reported and that many cases of brain abscess, meningitis and thrombosis might be traced to the accessory sinuses if they were subjected to careful examination either ante- or post-mortem.

My patient, a woman of thirty, had had symptoms of sinus trouble for about three years. I first saw her in May, 1911, when she was suffering a great deal and a diagnosis of pansinusitis of the left side was made, but operation was refused until the following January, when her headaches became unbearable. I then exenterated the left ethmoid and ablated the anterior wall of the sphenoid intranasally, which gave her complete relief for a month or more. After that the headaches returned with a discharge of pus from the nasofrontal duct. She again declined an external operation and enlarging the duct gave no relief. I did not see her after that for several weeks when I was called to her home and found her in a semicomatose condition. She remained this way for two weeks, having refused operation, and being treated by her attending physician for hysteria. I next saw her when she was sent in to the Pennsylvania Hospital and the diagnosis of brain abscess of nasal origin, made previously, was now unmistakable. There were semiconscious, active reflexes, no Kernig's sign or other symptoms of meningitis, incontinence of urine and feces, intense headache when aroused, photophobia, marked choked disk in left and beginning in right; left pupil dilated and inactive, tenderness over left frontal, subnormal temperature and slow pulse. Wassermann reaction was faintly suggestive, though no history of lues was obtainable. I operated at once, preparing to do the radical Killian operation but was balked at the outset by finding no trace of the frontal sinus on the left side so that what had appeared to be a nasofrontal duct must have been the opening of an orbital ethmoid cell which had been missed at the previous operation. However, the meninges were exposed and the frontal lobe probed unsuccessfully after which the temporo-sphenoidal lobe was also searched, without result, through a trephine opening. She died some hours later. At autopsy an abscess containing an ounce of pus was found located in the anterior half of the left frontal lobe, which my probe had just barely missed. It had a well-marked wall and had evidently been forming for a considerable time. It lay over the left olfactory bulb and the left optic nerve which accounted for the eye findings. From the history of the case I think this abscess had its inception before the first operation. There was a latent stage for a month or more following the operation when the patient was free from pain. After this the third stage was reached, the manifest stage, with pressure symptoms and ultimate death. I am inclined to think that the infection was blood-borne as there was no localized meningitis, epidural abscess, fistulous tract or carious bone to denote extension by continuity.

Dr. John J. Sullivan, Jr., Scranton: I have been very much interested in Dr. Goddard's paper and pleased up to a certain point. I can not understand why he uses so large a percentage of cocain. A twenty per cent. solution, to my mind, is very poisonous. Practical experience has proved that it is unnecessary and dangerous. There is one condition which makes antrum puncture a very painful and annoying procedure to the patient, *i. e.* an inferior turbinate which impinges close to the floor of the nose and hugs the lateral wall. You can easily understand how this will become inflamed by the bruising and trauma of repeated punctures. Inflammatory mucous membrane does not readily take up cocain, thus the patient suffers some at every puncture. A simple procedure that I have been using for the last two years which prevents this trauma is to infract the inferior turbinate, then puncture and lavage. If I find pus I enlarge the opening. The infraction can be easily carried out with the aid of a small elevator and a Luc's ethmoid forceps; the bone is bent upwards and inwards until you hear the characteristic crack, in fact a similar procedure to infraction of the middle turbinate. There is little or no swelling following. I also use it as a primary step in removing the lateral wall of the antrum in the more chronic cases.

Dr. George W. Mackenzie, Philadelphia: I appreciate the truth of the president's prophecy that we should have a good series of papers. Concerning Dr. Goddard's excellent paper, I want to emphasize the complications referred to, which occur on introduction of the needle. He spoke of the occasional occlusion of the lumen of the tube with a spicule of bone. I have found that instead of withdrawing the needle and submitting the patient to a second puncture, the introduction of a little wire, into the needle will generally push out the plug of bone, thus avoiding the necessity of introducing the needle a second time.

Also in regard to a complication spoken of by Dr. Skillern, I want to say that we may have a dentigerous cyst or a so-called mucous cyst in the antrum. The former is a cyst formed at the root of a tooth, which may bulge somewhat into the cavity of the antrum. I had such a case, and showed it last winter at the Philadelphia Laryngological Society. If we attempt to apply force with the syringe in such a case we may or may not get an emission of pus from the natural opening. In the case of mucous cysts, a mucous gland of the sinus may become blocked at its outlet, when by retention a mucous cyst may form, which by blocking the ostium of the antrum will prevent us from getting a positive finding when actual suppuration exists.

I was much interested in Dr. Ritchie's paper. He went into careful details; but the case to me was not proved—that is, so far as the diagnoses of thrombosis and meningitis are concerned. Thrombosis of any of the sinuses of the dura mater may be either peripheral in the wall of the sinus causing only partial occlusion, or it may be complete, causing total occlusion; furthermore it may be infected or noninfected. There were no distinct symptoms of empyema in the case. So far as the symptoms of meningitis go, however, the patient had some symptoms pointing to this condition but the important symptoms I do not recall the essayist mentioning. For instance there was not mentioned choked disk, over filling of the veins in the retina, or typical findings in the spinal fluid. The patient did not have the Kernig's sign, slowed pulse, convulsions or other important symptoms typical of meningitis. I believe that the case was one of meningismus or serous meningitis and not suppurative meningitis.

Dr. Culp spoke of atrophic rhinitis and the treatment of this condition by opening of the sinuses. If we recall the pathology of atrophic rhinitis, sometimes called ozena, we should realize that we have a diseased condition of the epithelium of the mucous membrane, which has undergone a process known as metaplasia, that is one where the epithelia lose their cilia and other characteristic features and become of a lower order, and flatter. Instead of one or two layers of columnar cells which we find normally, we have a layer of flat epithelium more like the squamous epithelium of the skin. This metaplasia of the epithelium results from a destructive condition of the mucous membrane, due to some previous purulent inflammation.

He also spoke of hypertrophy being followed in some cases by an atrophy similar to that in simple atrophic rhinitis. In the atrophies that follow hyperplastic changes of the mucous membrane we have a multiplication of all the elements that go to make up the mucous membrane. It is not the result of a destructive process and is not followed by metaplasia of the epithelium. What causes the crusting in ozena? The nasal discharges are normally pushed forward toward the nasal orifices, but when they come to the place where we have metaplastic epithelium without cilia they can not go farther; there they stop and accumulate and must crust. For this reason I can not see why the opening of the sinus should prevent crust formations in such cases. It may lessen the discharge, because we have a diminished secreting surface.

I have been conducting some experiments along this line, operating and opening the sinuses on one side, leaving those on the other intact. I have never seen cases in which there was improvement on the side that had been operated upon.

I think that Dr. Skillern was placed at a disadvantage. He started his discussion before all the papers had been read, and I move that he be tendered the few minutes left of his time, in which to finish his discussion.

With reference to Dr. Grayson's paper, which was excellent, I would say that it recalled a recent paper in the *Annals of Otology*, by Dr. Loeb, who made casts of the sphenoid sinuses in many cases, and found a tremendous variability in them. I do not see how anyone can accomplish more by finding the cavity through any other place than its natural opening. I prefer to use the probe through the natural opening, to outline in a measure the size and shape of the cavity.

So far as the middle turbinate is concerned, in one case I operated more than I intended to. All the sinuses were involved, and I found that the mucous membrane, months afterward, looked quite normal; so I have not the same hesitancy in removing normal tissue as many others have.

Dr. Charles A. O'Reilly, Philadelphia: There is one method of opening the maxillary sinus, which has not been touched upon in the papers. This method has been called the preturbinal method, and has been employed by Drs. Skillern and Coates as well as myself, with good success. Its points of value are (1) the conservation of the inferior turbinate, which, in a large number of cases of diseases in the antrum, is not involved; (2) a complete inspection of all sides of the antral wall; and (3) the opening can be kept patent for as long a period as five months after the original operation. It consists of making a curved incision along the border of the crista pyriformis and well down on the floor of the nose, then denuding both sides of the crista pyriformis of its mucous membrane, leaving the bare bone. A small chisel is then employed, and as large a section of bone as desired is taken out. By cutting away the mucous membrane, so as to have it level with the point of incision, the wound will remain open, as I have said before, for as long a time as desired, even up to five months, and can be inspected, curetted and washed out as often as desired.

Dr. George C. Johnston, Pittsburgh: I have examined cases of sinusitis, and have found it necessary to investigate every one of the sinuses. Where there is infection of the maxillary sinus, drainage is a good thing; if there is a pyogenic membrane it will not do any good. If we find bad teeth, we investigate the roots of all the teeth on that side.

With regard to types of sphenoidal sinuses, I would say that I have tried to find one that could be called normal. They vary so extremely that you can not tell what is normal.

Someone spoke of puncturing right back into the sphenoid. I can show many sphenoids that it would take a good twist drill with which to get into them. Sometimes there is a septum, and you might get into the front room, as it were, but would not know whether you got into the kitchen or not. Maxillary sinusitis does not do much harm, but when you get an infection of the sphenoidal sinus, that is different. If the radiographer says that there is pus in the right ethmoidal cells and in the sphenoid, open the right sphenoidal sinus. I have seen it done otherwise, and the patient died. The patient may have frontal sinuses on one side, on both, or on neither. I have seen patients with no sinuses, who were going to be operated upon by the Killian operation because they had frontal headache.

Dr. Skillern: I discussed all the papers except that of Dr. Grayson. I do not use his method of going into the sphenoid sinus. I rarely ever make an exploratory puncture of this cavity. There must be pus in one of three places, in the olfactory fissure, the sphenoethmoidal fissure, or the choanæ. Under these circumstances, I quite willingly sacrifice the posterior ethmoid cells; because I know that the pus must come from the posterior ethmoid cells or the sphenoid sinus. If they were sacrificed, it will leave a comparatively broad opening in the anterior sphenoid wall. If the ethmoid cells only are affected, cure will result. Otherwise, pus will be secreted; but in that case we can wash it out and get a full view of the sphenoid sinus. We can then introduce any instrument (Dr. Grayson's drill, if you will), and proceed with the treatment.

Dr. Goddard, closing: In reply to Dr. Corson, I would say that we find that the cheesy and fetid pus may clear up after two or three irrigations, and become laudable pus. If not, we make a practice of operating. I always use the straight needle in going into the sinus. Dr. Sullivan spoke of twenty per cent. cocain as being dangerous. We have had no dangerous results from its use, and consider it safer to employ the twenty per cent. solution. We seldom or never find the turbinate bone involved where there is the sinus trouble in chronic antral disease.

Dr. Ritchie, closing: Dr. Pyfer referred to delay after taking out polypi, before doing radical operative work. In my paper, I said that the polypi were cleared away on December 17, and the other operation done on January 8. The question of the amount of operative work done in this case has not been referred to by any of the surgeons as I hoped that it might be, operations having been done on frontal, sphenoid, ethmoid, and maxillary sinuses at one time. This seemed a lot of work to do on this man at one time, but I found that the frontal sinuses intercommunicated and demanded the procedure on both sides. The left side was the painful side originally, but the other, being infected, could not be left without operation.

As far as the reference made to the symptoms of meningitis by Dr. Mackenzie, I can only say that they were detailed in full in the text. The absence of eye symptoms is not significant in the presence of microörganisms found in connection with aphasia, muscular rigidity, septic temperature, Koerner's sign, delirium, right-sided spasticity and muscular incoördination, persisting twenty-one days. It was very fortunate, we grant, that the virulence of the organisms was not sufficiently great to lead to a general septic meningitis, in which case he would have been lost to us without early surgical interference.

Dr. Grayson, closing: I am glad to have the opportunity not only to make clear what I think must have been a little obscure in my paper, but also to emphasize the fact that this drill is driven by no other power than that of my own hand. I should not think of introducing an electrically driven drill. This one, however, can be aimed to the exact spot at which I purpose to make my entrance, and then manipulated as delicately and with as much control of one's power as is essential in an operation of this kind.

There is seldom any difficulty in localizing the lower and internal angle of the sphenoid sinus. These sinuses are never absent. They may vary in size; but however small they may be, they are always found adjoining one another close to the middle line. I do not hesitate to make this exploratory puncture whenever there is sufficient clinical reason for suspecting that the sinus is diseased. The man who first waits for pus, and waits again until he can trace its origin to the sphenoidal os, and is only then ready to remove the middle turbinate so that he can enter the sinus by its ready-made opening, is unnecessarily wasting a great deal of valuable tissue and what may be valuable time. The floor of the sinus is almost invariably at or just above the arched line that marks the junction of the anterior surface of the body of the sphenoid with its base. The application of a suprarenal solution makes this line perfectly distinct, and if a puncture be made just above it and close to the rostrum, it will be at a point even more remote from the dangerous external wall and the roof of the sinus than in the normal opening itself. This discussion has not furnished a single vital objection to this procedure that I advocate, and it has so many and such manifest advantages over the usual method of investigating the sinus that I can find no comparison between them.

REPORT OF A CASE OF INJURY TO THE EYE.

BY G. R. S. CORSON, M.D.,
Pottsville.

(Read in the Section on Eye Ear, Nose and Throat Diseases of the Medical Society of the State of Pennsylvania, Scranton Session, September 26, 1912.)

Mrs. S. M., aged thirty-eight, on August 16, 1912, was shaking a lace curtain when she was struck in the right eye by a large stick pin which was in the curtain. On examination three hours afterward, it was seen that the pin had penetrated the upper eyelid in its outer third, through the cornea and iris. There was but little laceration and no escape of the contents of the anterior chamber. There was but little inflammation and no infection of the wound. Atropin was instilled and ordered continued three times a day. Seven days later the outer quadrant of the lens showed cloudiness which gradually extended toward the center until about one third of the lens was opaque.

On September 16, as inflammation had subsided and the eye quieted down, I stopped the use of the atropin. Two days later (September 18) the patient telephoned me that the eye was very much worse, being painful, with photophobia, etc. I told her to come to town and I would see her. I found that the pupil had begun to contract and that a considerable amount of white, flocculent material was floating through the anterior chamber, principally in the lower and outer quadrant. I instilled atropin at once and the pain was relieved; I did not continue the atropin, and at this date, September 23, more than half of the white material is absorbed and the inflammation subsiding rapidly.

There evidently was a posterior synechia at the point of puncture, and upon the contraction of the pupil the lens capsule was torn, allowing the contents to escape and incidentally saving the patient an operation for traumatic cataract. To me this case is new and should incite discussion.

MEMBERSHIP IN THE AMERICAN MEDICAL ASSOCIATION.

The Proposed Change in Name.

BY GEORGE H. SIMMONS, M.D., LL.D.,
Chicago.

Explanatory Note:—This abstract of an address before the Conference of State Secretaries is republished from the American Medical Association Bulletin of November 15, 1912, on the request of the Judicial Council. The House of Delegates of the A. M. A. referred the report of the Committee to Formulate Amendments to the Constitution and By-laws to Extend Membership, presented at the 1912 session (*Journal*, June 15, 1912, p. 1899) to the Judicial Council with power to confer with constituent associations. The Council, after careful consideration, endorses the proposed change and takes this means of bringing the subject to the constituent associations as well as directing to it the attention of the members.

I have been asked to discuss the present conditions of membership in the American Medical Association and the proposed change, which has been under discussion recently. While this is not directly related to the object of this conference, the discussion of uniform regulation of state membership, it is so closely connected with it that I can not refuse to take advantage of the opportunity of discussing the question before such a large representation of state secretaries.

To get a clear understanding of what the present term "members" of the American Medical Association means, it is necessary to go back a little in the history of the Association.

The American Medical Association always has been a delegated body; only "delegates" ever had a right to take part in its proceedings.

"Permanent members" was a term originally applied to those delegates who connected themselves permanently with the Association after they had served as delegates. "Permanent members," however, had no rights except those of attending the meetings and taking part in the scientific work. In 1883, *The Journal* was started and the following year, for the purpose of increasing the circulation of *The Journal*, there was created another class: "Members by Application." A member of any so-called affiliated society could become a "member by application" simply by making application for membership and paying the annual dues. The difference between "members by application" and "permanent members" was that the latter had been delegates whereas the former became members simply by making application. Neither "permanent members" nor "members by application" had vote or voice in business meetings.

MEMBERSHIP IN THE A. M. A. TO-DAY ON THE SAME BASIS AS THE FORMER "MEMBERS BY APPLICATION."

Briefly, we have the following situation:—

1. The voting membership of the organization is the combined membership of all the 2000 (more or less) component county societies, amounting approximately to 70,000 members. These elect the delegates to the House of Delegates of the state associations; they in turn elect the delegates who form the House of Delegates of the American Medical Association. Before 1901 the delegates of the American Medical Association were elected, or appointed, by the "affiliated" societies, which included local, district, and state societies. Since 1901, that is, since the reorganization, the delegates to the national body are elected not by local, district and state societies, but by the state societies alone.

2. The so-called "members of the American Medical Association" are the direct successors of the old "members by application." By their payment of dues and their subscriptions to *The Journal*, they were and are to-day the supporting or contributing group of the members of the organization.

3. The House of Delegates is composed of approximately 150 members, who are elected by the various state Houses of Delegates, which are in turn composed of delegates elected by the members of the component county societies. The House of Delegates of the American Medical Association, therefore, is created by, and represents the combined membership of all the county societies of all the states; it is not elected by, nor does it represent, the present "members of the American Medical Association" as such; it never has.

The result is that we have two classes which could be called members. First, the actual, logical membership of 70,000, usually designated as "the membership of the organization." Second, the 36,822 contributing or supporting members, who are designated as "members," although these "members of the American Medical Association" have no more privileges than have all members of the organization, except

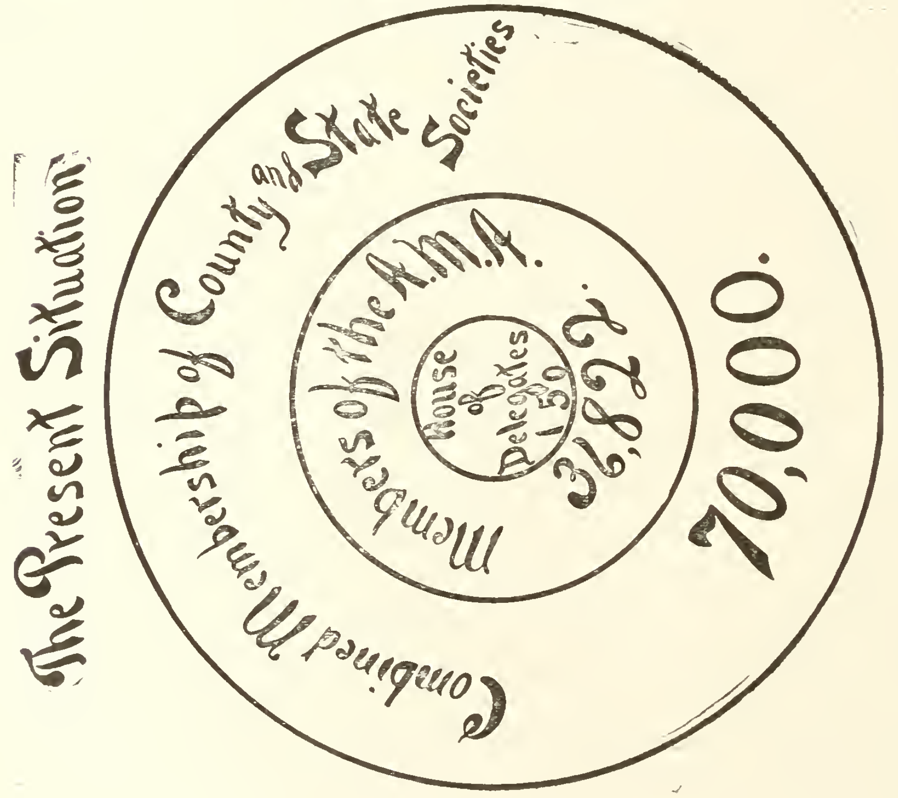

Chart 1

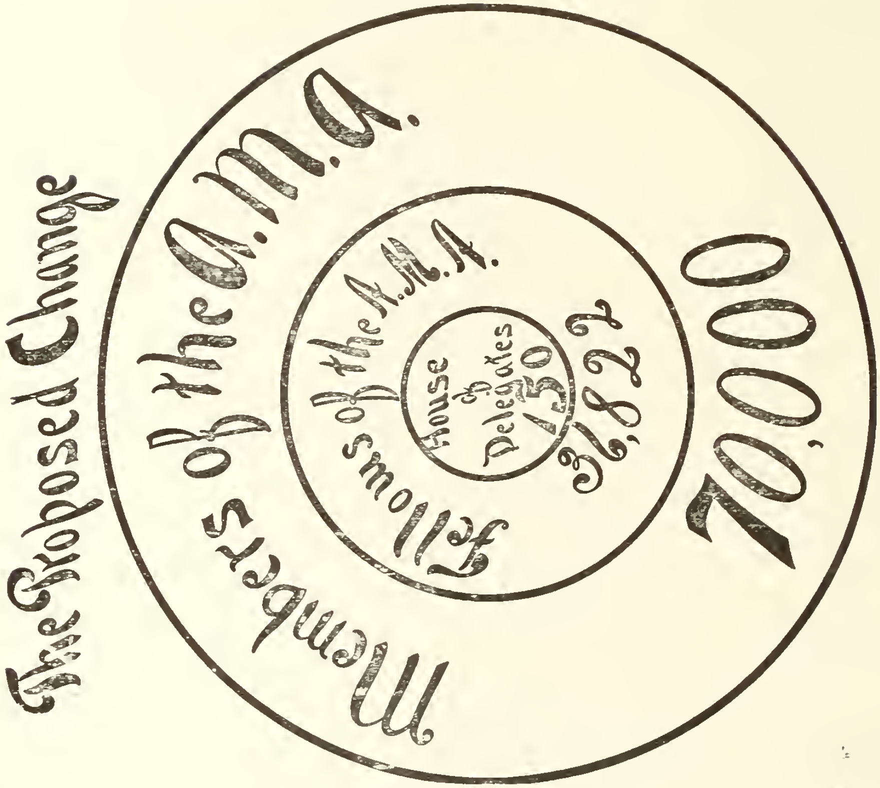

Chart 2

the right to take part in section work. This present situation I have had shown on the accompanying chart (Chart 1). The membership of the American Medical Association, at present 36,822, is an inner circle of the membership of county societies, while the House of Delegates is a still smaller circle composed of those who have been elected to represent the members of the organization of the whole country.

Now the situation itself is perfectly logical and is in every way to be commended. The trouble is that we have not named our groups accurately. Those whom we now call "members of the American Medical Association" are really those members of the organization who, in addition to supporting their county and state associations, also contribute to the support of the American Medical Association, while for the actual membership of 70,000 members we have no distinctive name.

The change that has been proposed is not a change in condition at all. It is simply a change in name. It is proposed to designate the 70,000 members included in the larger outer circle (Chart 2) as "members of the American Medical Association," which they really are and always have been, while those included in the inner circle (that is, those members in good standing of their county and state societies, who also pay $5 a year to support the work of the American Medical Association) are to be called "fellows of the American Medical Association" instead of "members." This will make no change in the membership standing or relations of any man. If this suggestion is adopted, all members in good standing in their state organizations will be designated as "members of the American Medical Association," while those members who contribute $5 a year to support the work of the Association will be designated as "fellows of the American Medical Association." In other words, those who are now known as "members" of the American Medical Association will be known as "fellows" of the American Medical Association, while the term "members" will be applied to the entire, combined membership of the component county societies of the whole country.

This plan has several advantages. In the first place it will give us a name for the entire membership of the organization, which we have never had before. Before 1901 they were referred to as members of "affiliated" societies, and since then they have been called, for lack of a distinctive name, "members of the organization." Another advantage will be that it will make clear that the voting power lies with the 70,000 members and not with the 36,822 "fellows." When this plan was first proposed, some got the impression that the intention was to compel the 70,000 members of the county societies to become "supporting members" of the American Medical Association, as the term is now understood. This, of course, would be a ridiculous proposition. The proposed change contemplates leaving membership conditions exactly as they are; it contemplates changing the name, and not the relation.

One great disadvantage prior to the reorganization of the American Medical Association in 1901 was the fact that we had no name by which to designate the delegates. As soon as the name "House of Delegates" was adopted, then the function of the delegates became clear at once. The Association also has labored under the disadvantage, ever since its reorganization, that there has been no name by which to designate the actual voting membership, because the term "member" had been applied to the supporting body. The proposed change simply recognizes this fact, designating as "members" those who really are members, and designating the supporting members as "fellows."

I have already given some reasons for making the change, but there is another and more important; in fact, it is the paramount reason. Up to the present time, the members of the organization have not realized that they are, in reality, members of the American Medical Association. They regard the American Medical Association as something entirely apart from them, something in which they have no interest. These members of the organization are through their elected representatives responsible for what the American Medical Association is doing, or what it ought to do and is not doing, but they do not realize this, hence they are not interested. They do not appreciate that the House of Delegates of the American Medical Association, which they elect, is the body that is doing the work through the officers trustees, councils, etc., which they, through their representatives in the House of Delegates of the American Medical Association, select. While only a change in name, I think the subject is of the utmost importance. I hope that all of you will look into it carefully, so as to understand exactly what is intended, and then will explain it to your members at the first opportunity.—*Jour. A. M. A.*, March 8, 1913.

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Dauphin—Norman B. Shepler, M. D., Harrisburg.
Delaware—Walter E. Egbert, M. D., Chester.
Elk—S G Logan, M. D., Ridgway
Erie—Harrison A. Dunn, M. D., Erie.
Fayette—John P. LaBarre, M.D., Waltersburg.
Franklin—John I. Coffman, M.D., Scotland.
Greene—Ira D. Knotts, M. D., Davistown.
Huntingdon—John M Keichline, Jr., M. D., Petersburg.
Indiana—James G Fisher, M D., Indiana.
Jefferson—James C. Borland, M. D., Falls Creek.
Juniata—
Lackawanna—Harry W Albertson, M. D., Scranton.
Lancaster—Walter D. Blankenship, M. D. Lancaster
Lawrence—W. A. Womer, M. D., New Castle.
Lebanon—George R. Pretz, M. D., Lebanon.
Lehigh—William A. Hausman, Jr., M. D., Allentown.
Luzerne—Herbert B. Gibby, M. D., Wilkes-Barre
Lycoming—Wesley F Kunkle, M. D., Williamsport.
McKean—James Johnston, M. D., Bradford.
Mercer—Patrick E. Biggins, M. D., Sharpsville.
Mifflin—Frederick A. Rupp, M. D., Lewistown.
Monroe—Frances H. Brown, M. D., North Water Gap
Montgomery—Edgar S. Buyers, M. D., Norristown.
Montour—Cameron Shultz, M. D., Danville.
Northampton—Wm. P. Walker, M. D., South Bethlehem
Northumberland—H. W. Gass, M. D., Sunbury
Perry—
Philadelphia—Arthur H. Hopkins, M.D., Philadelphia
Potter—E. H. Ashcraft, M. D., Coudersport.
Schuylkill—George O. O. Santee, M. D., Cressona.
Snyder—J. O. Wagner, M. D., Beaver Springs.
Somerset—H. C. McKinley, M. D., Meyersdale
Sullivan—Arthur J. Bird, M.D., Overton.
Susquehanna—C. C. Halsey, M. D., Montrose
Tioga—M. Berry Longwell, M. D., Wellsboro.
Union—Oliver W. H. Glover, M. D., Laurelton
Venango—J. Irwin Zerbe, M. D., Franklin.
Warren—Charles W. Schmehl, M. D., Warren
Washington—Joseph W. Hunter, M. D., Charleroi.
Wayne—Frederick A Lobb, M. D., Hawley.
Westmoreland—James P Strickler, M D., Scottdale.
Wyoming—Herbert L. McKown, M. D., Tunkhannock.
York—Julius H Comroe, M. D., York.

All communications should be addressed to the Pennsylvania Medical Journal, Athens, Pa.

The Medical Society of the State of Pennsylvania does not assume responsibility for any statements or opinions published in this Journal.

Athens, April, 1913.

KEEPING UP WITH LIZZIE.

It must be confessed at the outstart that the title of this essay is pure plagiarism although it is intended to point a very different moral than does Mr. Bachellor in his clever satire, which is, notwithstanding, the suggester of the article. There are Lizzies whose example ought to be followed; and every one moving in the same circles ought to strive to keep up with that especial Elizabeth. The particular maiden thought of just now is medical science, rightly so called.

Is the medical profession keeping up with the advances brought about by the investigations of experimental science in connection with medical subjects? To this the surgeon replies, "Aye, aye, Sir," and points to the wonderful results obtainable since he has made use of the findings of the laboratory experiments leading to the technic of antiseptic surgery. The internist, too, is following a close second, and the clinical laboratory is now essential to every hospital; and much is done both to cure and prevent the ills of flesh, formerly beyond the skill of the leech. But how about the "all around man" who still essays the rôle of general practitioner? Is he keeping up with Lizzie? Does he always associate "malarial fever" with the mosquito? or does he, while giving assent to this modern discovery, still employ malaria to cloak his doubts of the real significance of a symptom-complex frequently observed? Is not the diagnosis of "rheumatism" often made for differing pathologic processes formerly indistinguishable?

Then again, in matters of preventive medicine, are we keeping up with Lizzie? Years ago the fomites theory prevailed and elaborate processes were employed to "disinfect" or, if this was not possible, to destroy articles. The careful experimenter has found that disease rarely is conveyed in this manner. The germs are indeed transmitted by articles of food and drink; microphytes can be carried, entangled, by insects, and they, too, can be carriers, as a host, of microzoa, but the hypothesis of transmission of disease by articles that have been in contact with the sick, stands upon little real evidence. Dr. Charles Chapin, the efficient health officer of Providence, R. I., has abandoned disinfection as a necessary procedure for some years past, keeping careful records of the results of both methods of treatment, and he finds that disinfection had little or no effect upon preventing the spread of disease. These seem to be the findings of modern experimental methods. Are our health boards keeping up with Lizzie? It is not unusual to see the statement that a school has been closed because of the presence of diphtheria among the scholars that it might be disinfected, with never a suggestion of a single throat being examined. The method undertaken to prevent the spread of this disease easily can be turned into actual dissemination of the same, for who knows how many "carriers" of the diphtheria bacillus may be among the children apparently healthy.

The question is raised whether the physician is keeping up with Lizzie in other directions. Social conditions have changed, methods of living have altered, industrial plants have been revolutionized, institutions depending upon medical assistance have multiplied, making a vast and complex changing in the entire body politic. Is the profession adapting itself to the new order of things? is it keeping up with Lizzie in these directions?

Educational standards have changed. As the invention of the air brake permits modern railroad transportation, so the invention of preparing paper from wood pulp has revolutionized the issuing of newspapers and periodicals, and the entire community has a greater fund of information than formerly; much of it erroneous, unfortunately, but used by the community as true. Is the profession keeping up with Lizzie here, or does it strive under the old ways to conduct itself in present-day conditions?

These are almost questions enough to ask in a single article. We will close with another. If the profession is not keeping up with Lizzie, why not; and, if not, ought it not?

C. M.

MEDICAL EXPERT TESTIMONY.

The *Medical Record* for March 29, says:—

> The committee on medical expert testimony of the New York State Medical Society has caused to be introduced into both houses of the state legislature a bill to amend the present judiciary law in relation to examining physicians, by adding the following paragraph: "Sec. 31. Examining Physicians.—In a criminal action or proceeding or in a special proceeding instituted by the state writ of habeas corpus or certiorari to inquire into the cause of detention, in which the soundness of mind of a person is in issue, the court in which, or the judge or justice before whom, the action or special proceeding is pending may appoint not more than three disinterested competent physicians to examine such person as to his soundness of mind at the time of the examination. Any examining physician may be sworn as a witness at the instance of any party to the action or proceeding. The compensation of such examining physicians for making such examination and

testifying when certified by the presiding judge or justice of the court or judge or justice making the appointment, shall be paid out of any funds available for the payment of and in the same manner as other court expenses." This bill has been carefully drawn by an expert on constitutional law, who has taken into consideration the laws of all of the states, and it is his belief that it will stand the constitutional test. The committee of the state society, believing that the abuses of medical expert testimony have been and are shameful, hope that the medical profession of New York will endorse the bill and give it hearty support.

Mr. Kane in his excellent address before the Medical Society of the State of Pennsylvania at Scranton last September quoted Dean Wigmore as saying in his book on evidence that "much has been declaimed about the partisanship and consequent untrustworthiness of the usual professional man as an expert witness. But it does not appear that the professional man is more biased or more corrupt than the ordinary law witness." This statement brings out a fact often overlooked by those who sneer at medical expert testimony, but medical men should not be willing to be placed on a par with "the ordinary law witness." The average medical man has had superior advantages over the average law witness and he also belongs to a profession the large majority of whom have ideals higher than the average intelligent citizen. The question of medical expert testimony will never "down" until some plan is adopted by which the expert witness shall be selected by the court, by the medical profession or by some impartial commission, and paid by the commonwealth or by the party against whom judgment is rendered. The really competent and honest medical man will prefer that his pay shall not seem in any way to depend upon the outcome of the trial.

The propriety of a medical man sitting beside a lawyer in court and acting as his coach is doubtful. Certainly such service should disqualify the physician so acting from testifying as an expert witness. S.

SOME EXPERT TESTIMONY.

There are times when the result of a trial depends upon testimony regarding medical matters about which there is a difference of opinion among competent medical men, and in such cases where the life, liberty or property of an individual is at stake it is not surprising that the testimonies of physicians differ somewhat or even seem to be contradictory. It requires a wide stretch of charity, however, to believe that certain physicians from Buffalo were actuated solely by a desire to advance either medicolegal science or justice when they appeared in court in Elmira last month in an attempt to overcome the testimony of four competent local physicians who had testified in defense of a young woman's honor.

A girl of nineteen and a married man, the pianist and chorister respectively in an evangelistic party, were on trial charged with adultery. As soon as the arrest had been made it was publicly charged that the whole matter was a frame-up on the part of certain liquor interests that had been publicly criticized by the leader of the evangelistic party. After the arrest the girl was at first denied permission to communicate with her friends, was locked in a cell, searched and given the third degree instead of being at once presented to the recorder who was at liberty in the same building. The two principal witnesses against the girl were detectives from Buffalo hired by a man, who had been criticized by the evangelist, to come to Elmira and spy upon the party which was stopping at a hotel. On the stand these detectives contradicted each other, and in fact every important witness for the prosecution contradicted some one or more of the prosecution's witnesses in some point. Not a single witness testified to having seen anything of a compromising nature between the two defendants. The detectives did testify that they heard some parties supposed to be the defendants in a certain room from 11:20 A.M. until 12:05 on a certain day, and on this testimony the arrest was made thirty-six hours after the warrants were sworn out and delivered to the chief of police, against whom formal charges of conspiracy, growing out of this arrest, were made before the trial began. Many reliable witnesses testified that at the hour when the crime was said to have been committed the defendants were far from the hotel and a mile apart from each other. A man who was said to have attempted to bribe one of the jurymen to "hang the jury" was arrested at the time and place said to have been agreed upon as a meeting place, and the one hundred dollars said to have been agreed upon as the first payment was found on his person in a roll separate and apart from his pocket book. All this evidence had been widely published and evidently was known to the Buffalo physicians, who sat with the attorneys for the prosecution during the examination of the local physicians. The girl, naturally anxious to defend her honor and to counteract as far as possible the damage done her reputation, had submitted to a physical examination by four experienced local physicians, who testified that in their opinion, based upon the examination, the girl could not have been guilty of adultery.

After all this exposure and testimony the two Buffalo physicians without having examined the girl went on the stand and tried to belittle the examinations and the conclusions of the four reputable Elmira physicians, any one of three of whom has had more experience than either of the Buffalo men. The fourth Elmira physician, a woman, is no novice, having had eleven years' practice among a female clientele, graduating from the University of Buffalo only one year later than the expert from that institution. The Buffalo experts admitted that they had assisted in the formation of the hypothetical question propounded by the prosecution and readily answered by them, and they refused to express any opinion upon a hypothetical question asked by the defense. They also testified that they were hired by the same man who had hired the detectives and that to him their bill would be sent.

In justice to the medical profession of Buffalo it is only fair to give the names of these experts, Edward John Myer, M.D., Adjunct Professor of Clinical Surgery, University of Buffalo, and Lawrence George Hanley, M.D. It may be added that the jury after being out of the court room only six minutes returned a verdict of not guilty. S.

THOREMEDIN.

W. A. Pusey having criticised the claims made for Thoremedin Paste, its manufacturers, E. R. Squibb and Sons, submitted the preparation as well as Thoremedin Liquid and Thoremedin Ointment to the Council on Pharmacy and Chemistry for consideration.

In view of the report by Pusey that the property of the mixture depended on the sulphuric acid and the counter claim of E. R. Squibb and Sons that they depended largely on the thorium content and because the claims made for the other preparations depended on those made for Thoremedin Paste, the Council's Committee on Therapeutics, to which the products were assigned, decided first to take up Thoremedin Paste.

Inasmuch as it was possible, although not probable, that the emanations produced by the small amount of thorium sulphate contained in the paste might in some way affect the cauterant action of the sulphuric acid or influence the tissues after such cauterant action had ceased, the referee believed it necessary to make some clinical trials as to the effect of thorium in such a sulphuric acid mixture. He therefore requested the A. M. A. Chemical Laboratory to prepare a sulphuric acid mixture agreeing in sulphuric acid content with Thoremedin Paste, thorium sulphate being omitted. This preparation was put up in vials, identical with those which contained Thoremedin Paste, being identified by numbers only. The referee secured the help of men of established reputation in the treatment of cancer and supplied each with specimens of Thoremedin Paste and of the A. M. A. sulphuric acid paste. The reports received, show that the action of the two preparations is practically alike and therefore no particular virtues can be ascribed to the thorium or thorium emanations.

In view of these findings the Council held that the claims made for Thoremedin were incorrect and unwarranted. Since the name "Thoremedin" suggested that the activity depends on thorium, the Council held that it was misleading. Further, sulphuric acid having long been used as a cauterant, the attempt to introduce it as a new discovery was held contrary to therapeutic advance.

The above findings having been submitted to E. R. Squibb and Sons, this firm, in accordance with its previous agreement, announced that the sale of Thoremedin would be discontinued, a decision which is a credit to the firm which in the past has enjoyed the confidence of the medical profession and which evidently has no desire to forfeit it now. S.

LAST INVITATION TO WRITE A PAPER FOR THE PHILADELPHIA SESSION.

The Committee on Scientific Work will hold its final meeting early in May and it will at that time complete the final program for the Session in Philadelphia next September. Five volunteer papers may be accepted for the General Meetings and seven each for the Section on Medicine, the Section on Surgery, and the Section on Eye, Ear, Nose and Throat Diseases. A brief outline of each volunteer paper must be submitted by May 1 for the consideration and approval of the committee. Ten minutes will be allowed for the reading of each paper. Address the chairman of the committee, Dr. Lawrence Litchfield, 5431 Fifth Ave., Pittsburgh. S.

HOSPITAL INTERNS.

At this season of the year there is always a scramble among medical students for the positions of interns in our hospitals. A number of institutions still make the appointments after a fairly rigid examination and personal inspection of the men, while others confine their methods of selection to an interview, and to recommendations of the faculty of the school from which they are graduated. Each method has its advantages and disadvantages. After the selection has been made and the student has signed an agreement to accept the appointment and to begin his term at a certain time, he sometimes repudiates his agreement in order to accept what seems to him a more desirable appointment. It is a fact that the faculty of each medical school is desirous of having its students receive internships, and there is friendly rivalry among them to see how many of their students can get good appointments. The staff committee of the different hospitals, after making the selections and receiving their acceptances, often find within a few weeks or months that the men repudiate their agreements and leave the committee in the lurch. Appeals to the faculty of the school from which the men were selected, asking that they lend their aid and moral support by requesting the students to live up to their signed agreements, meet with indifference. Indeed some of the members openly encourage the applicant to try another hospital to please a personal friend or for some other reason often of personal advantage to himself. If the hospitals after making the appointments did not live up to their agreement a cry would soon go up and a boycott ensue.

A medical student who breaks a written or verbal contract before he begins his career is not likely to be a credit to the profession or the school from which he is graduated, and the medical school that does not urge its students to keep their agreements as to internship is neither wise nor patriotic. It is allowable for a student to take the examination of different hospitals in order that he may be sure of a good position, but it would seem only fair that he should promptly accept or decline an appointment when offered, and that he should keep his promise of acceptance. T. G. S.

MORE THAN 6000 MEMBERS.

By reference to the Changes in Membership of County Societies it will be noticed that we now have more than 6000 members, there having been a net increase in membership of forty-three since the March Journal was printed. It is hoped that each officer and member of the several county societies will make a special effort to secure as members all reputable physicians in his county. We ought to add at least five hundred members before the Philadelphia Session. Let each member give a cordial personal invitation to every eligible physician in his neighborhood to join.

S.

CLINICS AT PHILADELPHIA.

The committee, consisting of Drs. Edward Martin, W. E. Robertson, L. J. Hammond, and A. C. Morgan, appointed by the Philadelphia County Medical Society to arrange for clinics on Monday and Friday of the week of the Philadelphia Session in September, submits the preliminary program printed elsewhere in this issue. Before the meeting the work to be presented will be sufficiently formulated to allow of an arrangement which will prevent needless overlapping of topics. There will be printed and ready for distribution on Monday morning a complete program, with the hospital geography of Philadelphia duly set forth, the promptest means of reaching various places and, in so far as this is possible, the exact announcement of what is to be seen at each clinic. On the evening of Thursday, the last day of the session, there will be at headquarters a supplementary sheet bringing the subject matter to be presented on Friday entirely up to date. The Committee on Clinics would be glad for suggestions from the members of the society in regard to clinical subjects which it might be desirable to present.

Edward Martin, Chairman.

CHANGES IN MEMBERSHIP OF COUNTY SOCIETIES.

The following reports have been received since the March Journal was printed:—

Adams County: *Transfer*—G. Emanuel Spotz to York County Society.

Allegheny County: *New Members*—James I. Armstrong, Donald W. Cameron, Charles E. Fawcett, W. M. Holtz, I. L. Marks, Walter B. Orbin, Paul Titus, Charles W. Vates, George A. Zieg, Pittsburgh; James Montgomery Boice, Clinton; Charles A. Dillon, Etna; David H. Shaffer, Elizabeth; James Wylie Stevenson, McKeesport. *Deaths*—Nannie M. Latimer (Western Pennsylvania Med. Coll., Pittsburgh, '08) formerly of Tarentum, in Lien Chow, China, March 15, aged 34; Robert S. Macrum (Univ. of Pennsylvania, '97) in Sewickley, March 4, aged 44. *Removal*—James M. Booher from Swissvale to 6729 Evans Ave., Chicago, Ill.

Beaver County: *Removal*—Chalmers B. Moore from New Sheffield to New Galilee.

Bedford County: *New Member*—Simon H. Gump, Bedford.

Bradford County: *New Member*—Eri M. Farr, Sayre.

Cambria County: *New Member*—V. J. Mulvehill, Carrolltown.

Chester County: *New Member*—Ralph C. Kell, Embreeville (by transfer from Philadelphia Co.).

Clearfield County: *New Member*—W. W. Buckingham, Mahaffey.

Columbia County: *Death*—George H. Vastine (Univ. of Pennsylvania, '91) in Catawissa, March 30, aged 45, of uremic poisoning.

Crawford County: *Removal*—Jay C. Coulter from Cochranton to Charlottesville, Va.

Dauphin County: *Removal*—Edward L. Morrison from Harrisburg to 516 Allegheny St., Jersey Shore (Lycoming Co.).

Delaware County: *Removal*—Henry Horning from Philadelphia to 812 Monmouth St., Gloucester, N. J.

Elk County: *Removals*—Bertram A. Beale from Driftwood (Cameron Co.) to Dubois (Clearfield Co.); Charles C. Neff from St. Marys to 127 East Market St., York (York Co.).

Fayette County: *Deaths*—James D. Cox (Coll. of Phys. and Surg., Baltimore, '92) in New Salem, March 9, aged 51; Marsellows B. Shupe (Univ. of Maryland, Sch. of Med., Baltimore, '85) in Connellsville, March 22, aged 60.

Lackawanna County: *New Members*—Frank Garvey, James E. O'Toole, Walter A. Runyon, Scranton; Harvey O. Rohrbach, Mill City (Wyoming Co.).

Lancaster County: *New Members*—William D. Hamaker, Lancaster; John C. Stever, Landisville. *Resignations*—Mary R. Bowman.

Lehigh County: *Death*—Luther Jacob Saeger (Univ. of Pennsylvania, '99) in Allentown, March 23, aged 36.

Luzerne County: *New Members*—Henry F. Bittner, John J. Corrigan, Sarah M. Davis, Louis A. Dessen, Edward G. Heyer, Louis Segal, George W. Harrington, Hazleton; William S. Carter, West Hazleton; D. A. Huebner, Fern Glen; George F. Burkhardt, Drums; Joseph J. Cocyan, Plains; Charles L. Griswold, Albert E. Man, Rhone; Edward J. Flanagan, Duryea; Miron L. Briggs, Shickshinny; S. H. Rynkiewicz, Edwardsville; Evan Williams, Sugar Notch; Daniel W. Dodson, Dana W. Kingsbury, Oscar J. Kingsbury, Stephen S. Krajewski, Joseph Stomel, J. A. Norstedt, William Watkins Waters, Nanticoke; Gideon L. Howell, Trucksville; Frank P. McGinty, Patrick F. McHugh, Wilkes-Barre; John F. Connole, Thomas J. Dailey, Clark Harvey Yeager, Plymouth. *Death*—Frederick C. Johnson (Univ. of Pennsylvania, '83) of Wilkes-Barre, in Dallas, March 5, aged 54. *Removal*—James J. King from New York City to 1616 Pacific Ave., Atlantic City, N. J.

Mercer County: *Death*—Thomas Jackson (Eclectic Med. Coll., Cincinnati, '74) in Hadley, April 7, aged 67.

Montgomery County: *Removal*—Joel D. Brown from Oaks to R.D. 3, Royersford.

Philadelphia County: *New Members*—Walter L. Culbertson, Israel Myers, Philadelphia. *Transfer*—Ralph C. Kell to Chester County Society. *Resignation*—Philip G. Kitchen. *Deaths*—Roland G. Curtin (Univ. of Pennsylvania, '66) in Philadelphia, March 14, aged 73; George McClellan (Jefferson Med. Coll., '70) in Philadelphia, April 6, following an attack of heart disease, aged 64.

Potter County: *Removal*—William Howe from Shingle House to Box 332, E. Los Vegas, New Mexico.

Schuylkill County: *Death*—Sobieski H. Brady (Univ. of Pennsylvania, '75) in Girardville, March 17, from paralysis, aged 61.

Tioga County: *Removal*—Clarence C. Gentry from Greenville, S. C., to Knoxville.

Washington County: *Removal*—Harry Stunkard from Norfolk, Va., to Steubenville, Ohio.

Westmoreland County: *New Member*—Joseph M. Reed, Derry.

Wyoming County: *New Member*—Albert Beilstein, Meshoppen.

York County: *New Member*—G. Emanuel Spotz, York (by transfer from Adams Co.). *Resignation*—Louis S. Weaver.

Present Membership 6014. S.

PAYMENT OF PER CAPITA ASSESSMENTS.

Component county societies have paid their per capita assessment for the year September 1, 1912, to September 1, 1913, as shown below:

Oct. 1,	Huntingdon County	$ 70.00
Oct. 1,	Dauphin County	270.00
Oct. 2,	York County	188.00
Oct. 3,	Adams County	36.00
Oct. 3,	Allegheny County	1644.00
Oct. 3,	Carbon County	56.00
Oct. 4,	Westmoreland County	228.00
Oct. 8,	Warren County	100.00
Oct. 9,	Montgomery County	182.00
Oct. 10,	Lehigh County	146.00
Oct. 11,	Sullivan County	20.00
Oct. 17,	McKean County	92.00
Oct. 17,	Wayne County	58.00
Oct. 19,	Philadelphia County	2800.00
Oct. 22,	Northampton County	210.00
Oct. 28,	Fayette County	204.00
Oct. 30,	Butler County	88.00
Nov. 6,	Clarion County	70.00
Nov. 18,	Jefferson County	126.00
Nov. 22,	Venango County	98.00
Nov. 26,	Erie County	176.00
Nov. 27,	Chester County	120.00
Dec. 5,	Armstrong County	128.00
Dec. 7,	Lancaster County	282.00
Dec. 7,	Northumberland County	92.00
Dec. 20,	Lycoming County	196.00
Dec. 20,	Tioga County	62.00
Dec. 28,	Center County	60.00
1913.		
Jan. 16,	Luzerne County	318.00

Jan. 20, Potter County	50.00
Feb. 10, Bradford County	80.00
Feb. 24, Washington County	264.00
Feb. 24 and Mar. 1, Cumberland County	76.00
Mar. 14, Cambria County	180.00
Mar. 14, Wyoming County	34.00
Mar. 14, Perry County	36.00
Mar. 14, Clinton County	44.00
Mar. 17, Bucks County	174.00
Apr. 4, Mercer County	130.00

G. W. Wagoner, Treasurer.

STATE NEWS ITEMS.

MARRIED.

Dr. Charles A. O'Dea and Miss Josephine Leary, both of Erie, in New York, April 10.

Dr. Isaac B. High, Reading, and Miss Mary J. Miller, Linfield, at Philadelphia, March 24.

DIED.

Dr. John Jay Craig (Jefferson Med. Coll., '01) in Columbia, April 8, aged 35.

Dr. George B. Hall (Univ. of Pennsylvania, '91) in Shawmut, March 30, aged 46.

Dr. George C. Way (Jefferson Med. Coll., '75) in Altoona, February 26, aged 65.

Dr. Mayberry S. Reber (Univ. of Pennsylvania, '63) in Reading, March 26, aged 75.

Dr. Zibah Hazard Potter (Geneva Med. Coll., '57) in Bethlehem, April 1, aged 76.

Dr. Bruce Thomas (Univ. of Maryland, Baltimore, '52) in Philadelphia, March 14, aged 80.

Dr. Edward L. Downs (Med. Dept., Univ. of Maryland, Baltimore, '03) in Butler, March 27, aged 55.

Dr. Allen H. Glover (New York Univ., New York City, '89) in Knoxville, February 8, from pneumonia, aged 48.

Dr. Hamilton Graham (Hahnemann Med. Coll. and Hosp., Philadelphia, '92) in Kennett Square, February 22, aged 43.

Dr. Gustave A. Zimmerman (Univ. of Pennsylvania, '78) of Johnstown, in Albuquerque, N. Mex., March 14, from tuberculosis, aged 63.

Dr. Clara Alexander (Woman's Med. Coll.), formerly of Blairsville, in Mysers, South India. Dr. Alexander went to that place with Clara Barton of the Red Cross Society.

ITEMS.

Dr. Rufus B. Scarlet has gone abroad to study laryngology.

Dr. J. W. Ellenberger, Harrisburg, has returned from Europe.

Dr. Howard Childs Carpenter has resigned from the dispensary of the Children's Hospital.

Dr. William L. Rodman delivered the Samuel D. Gross Lecture at Jefferson Medical College, March 28.

Dr. William H. Wells has been appointed assistant professor of obstetrics in Jefferson Medical College.

The Harrisburg Hospital receives a bequest of $5000 by the will of the late William H. Boyer of New York.

Dr. John K. Gilmore, Renovo, while making a night call, April 2, was thrown from his carriage, fracturing his hip.

The Medical Society of Franklin County on March 18 was presented with a portrait of the late Dr. William Grubb, who died in 1885.

Dr. Ralph Pemberton has been appointed to the staff of the Presbyterian Hospital, to take the place of Dr. S. S. Stryker who has retired.

Dr. Edward A. Spitzka, director of the Baugh Institute of Anatomy, has gone abroad to recuperate from a general nervous breakdown.

Dr. J. R. Montgomery, Bloomsburg, has recovered from an operation for gallstones performed at the Bloomsburg Hospital, February 22.

The Methodist Episcopal Hospital and the Presbyterian Hospital each received $5000 by the will of the late Samuel T. Benner, Philadelphia.

Dr. L. C. Peter has been elected ophthalmologist to the Rush Hospital for Consumption and Allied Diseases, vice Dr. Wendell Reber, resigned.

Dr. Ernest LaPlace has recovered from an infection that developed from a slight cut received on his finger while performing a surgical operation.

Dr. Phoebe H. Flagler Hagenbach, Stroudsburg, celebrated her eighty-first birthday, February 25. She has practiced medicine for the last thirty-four years.

Dr. Howard A. Kelly of Johns Hopkins University spoke on the vice problem in March at the Garrick Theater under the auspices of the Equal Franchise Society.

Dr. George G. Lindsay, Scranton, had his left leg amputated, March 27. Dr. Lindsay had his leg broken last summer and it has been found impossible to save the leg.

The Gynecean Hospital and the Hospital of the University of Pennsylvania each receives a bequest of $10,000 by the will of the late Lucy Wharton Drexel, Philadelphia.

War on the Mosquito. Several towns in Delaware County have begun an active campaign against the mosquito, the Boy Scouts, woman's clubs, and boards of health rendering assistance.

Dr. J. Solis-Cohen has just passed his seventy-fifth birthday. Dr. Cohen graduated from the University of Pennsylvania in 1860; he served as surgeon in the navy throughout the Civil War.

The West Philadelphia Medical Association gave a reception, February 25, to Dr. C. A. E. Codman, president of the Philadelphia County Society, and Dr. J. W. McConnell, chairman of the West Branch.

The Jefferson Hospital Clinical Society on March 21 elected the following officers for the ensuing year: President, Francis T. Stewart;

vice-president, E. Q. Thornton; secretary, E. H. Funk; treasurer, C. D. Smith.

In Honor of the Late Dr. Lewis W. Steinbach, a memorial meeting was held in Philadelphia, March 30, under the auspices of forty-two different organizations. Among the addresses of tribute was one by Dr. Solomon Solis-Cohen on "Physician and Friend."

Practicing without a License. Dr. Edwin M. Dowling, acting for the State Osteopathic Board, entered suit at Lancaster, April 4, against four men, alleging that they were practicing the profession of osteopathy without having secured a license for such practice.

Dr. S. Weir Mitchell, who served his time in the Civil War, has made a vigorous protest before the Physicians' Club in Chicago, that the members of the medical profession who served with honor in the War have not been sufficiently recognized by the Government for their services.

Dr. Charles F. Nassau, 1831 Chestnut Street, has announced that there will be three appointments for resident physician in the Frankford Hospital, Philadelphia. The hospital is located in one of the largest manufacturing districts of Philadelphia. It is modern and thoroughly up to date.

Alumni Society of the Medical Department of the University of Pennsylvania. At the twenty-first annual meeting of this society, held recently in Philadelphia, $500 were voted to found a scholarship in memory of Dr. Roland G. Curtin, the first president of the society. This sum will be increased each year.

Health Campaign. The New Century Club of Easton has inaugurated a movement for the betterment of public health, and on April 3 Dr. John G. Clark addressed a public meeting in the Easton Free Library on Bacteria. Dr. W. T. Councilman of Harvard will deliver an address, April 29, on the Nature of Disease.

Bills of Medical Interest before the Pennsylvania Legislature: The Smith Bill, to reform hospital charity abuse; the Alter Bill, against medical frauds; the Richards Bill, restricting the sale and dispensing of narcotics; the Steel Bill, forbidding the marriage of the unfit; and the Steel Bill, amending the law for reporting infectious diseases by including syphilis and gonorrhea, with the initials of those infected.

The Executive Committee of the Council of the Medical School of the University of Pennsylvania has passed a resolution to the effect that any student who repeats a year, because of failure, is ineligible thereafter to repeat another year for the same reason. This means that from now on a student will not be allowed to remain in the Medical School more than five years; hitherto, the time has not been limited, and, as a result, some have been in the department for six or seven years.

Jefferson Medical College Hospital has just bought a property at fifth and Pine Sts. which it will remodel to fit the needs of a new Jefferson Institute for the treatment of diseases of the chest. It will be conducted as one of the departments of the Jefferson Hospital. It will provide for fifty-two bed patients, the greater portion of whom will be advanced cases of tuberculosis. Dispensary facilities will be available for the treatment of walking cases. The medical management will be under the direction of Dr. Thomas McCrae.

A Higher Standard has been adopted by Jefferson Medical College, the Medico-Chirurgical College, the Hahnemann Medical College, and the Woman's Medical College, which have now gone on record as adopting the higher preliminary qualifications for medical students. In addition to an accredited high school course the student will be required to take a year's work devoted to college courses in physics, chemistry, biology, and a modern language aside from English. The University of Pennsylvania has for three years been requiring for admission, two years of college work, including the sciences above mentioned.

Recommendations of Mental Hygiene Conference. At the close of the Conference on Mental Hygiene, March 22, a legislative dinner was given at which resolutions were passed advocating the passage of the Ambler bill which provides for the creation of a state home for feeble-minded women; the creation of a department of research by the state for investigation into the cause and prevention of insanity and feeble-mindedness; the establishment of "after-care" departments in each of the state hospitals for the insane as places for clinical treatment of the feeble-minded and the creation of a new state hospital for the insane in the southeastern district of Pennsylvania to relieve the overcrowded insane wards at the Philadelphia General Hospital.

The Majority Report of the Pennsylvania State Vaccination Commission, signed by four members, favors compulsory vaccination. It was presented to the legislature together with a minority report signed by the other three members, which opposed vaccination. In the majority report the contention is made that, by an over-whelming majority, prominent medical men examined by this commission favored vaccination and gave testimony to support their convictions. This report was signed by Emil Rosenberger, president of the Real Estate Title Insurance and Trust Company and chairman of the commission, Dr. William H. Welsh and Dr. J. F. Schamberg of Philadelphia and Edward A. Woods of Pittsburgh. The minority was signed by Porter F. Cope, Henry C. Lippincott, and John Pitcairn. The commission was appointed in 1911, Welsh and Schamberg being nominated by the state society, Cope and Pitcairn by the Anti-Vaccination Society. These four selected three others of unprejudiced mind to fill the commission. They examined more than fifty witnesses, including thirty physicians.

The Carbon County Medical Society has recently adopted a new constitution and the article on fees reads as follows:—

Section 1. The membership fee shall be one dollar, which shall be presented with the application for membership. No annual dues shall be charged members joining during the months of October, November and December.

Section 2. The annual dues shall be three dollars, payable each January in advance, and any member failing to pay his dues by March 20th shall forfeit his membership and the Secretary shall notify him in writing that his membership has been forfeited by reason of failure to pay his annual dues. The printed notice for the last meeting of the year shall contain the following: "The annual dues of $3.00 for the ensuing year will be due in January in advance and members failing to pay their dues by March 20th will forfeit their membership." A member of this Society at the age of seventy shall not be required to pay any further dues to retain his full membership, provided he has been in good standing for not less than the ten years preceding.

Section 3. During the month of February the Secretary shall send a formal bill to each member whose dues for the year have not been paid, and call his attention to the fact that his membership will terminate on March 20th without any action of the society unless his annual dues are paid by that date.

Section 4. Sections 2 and 3 of this Article shall be printed in full on each bill for dues or notice of forfeiture of membership sent to a member.

GENERAL NEWS ITEMS.

Dr. Prince A. Morrow died suddenly at his home in New York City, March 17, aged 67.

Dr. John Shaw Billings, Lieutenant-Colonel. U. S. A., retired, died at the New York Hospital on March 11, aged 74.

An English Speaking Conference on the Prevention of Infant Mortality will be held in Caxton Hall, Westminster, London, August 4 and 5.

Dr. Algernon Thomas Bristow, editor of the *New York State Journal of Medicine*, and a widely known surgeon, died at his home in New York City, March 26, of septicemia, following a scratch on the finger received while operating two weeks before, aged 62.

She Was Appointed. A member of the 1913 class of the Woman's Medical College of Pennsylvania applied for an internship in the Beth Israel Hospital, New York City, but was told that only men were appointed. She was, however, allowed to take the competitive examination, both oral and written, and having stood number one in competition with thirty men she secured the appointment.

Medical Missionaries Wanted. Three medical missionaries are wanted at Beira, Portuguese East Africa. A teacher of physiology, chemistry, physics, biology and bacteriology is wanted in connection with the Presbyterian Mission Hospital Medical School at Miraj, West India. A man with a knowledge of x-ray work is preferred. Address Mr. Wilbert B. Smith, 600 Lexington Ave., New York City.

The Minneapolis Session of the A. M. A. Those expecting to attend the session of the American Medical Association, June 17-20, and wishing to visit the Yellowstone Park or the Glacier National Park, can consult our advertising pages or the chairman of the Committee on Excursions, Dr. H. H. Kimball, 1106 Donaldson Bldg., Minneapolis. For a list of hotels see *Journal A. M. A.*, March 8, page 764.

Hon. W. Bourke Cochran, speaking at a medical dinner recently, expressed the opinion that the sea law of salvage should apply on land as well as on the sea, adding: "Now you all know that when a mariner comes on a wrecked vessel and saves it he is entitled to a fee for salvage. And that fee is fixed not according to the trouble it was to him to make the salvage, but according to the value of the goods salvaged. That is the law to which we must look to judge the surgeon who performs a major operation on a rich man."

New and Nonofficial Remedies. Since March 1 the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion with New and Nonofficial Remedies: Acne vaccin, polyvalent; Antimeningitis serum; B. coli-communis vaccin, polyvalent; diphtheria antitoxin; gonococcus vaccin, polyvalent; meningococcus vaccin, polyvalent; pneumococcus vaccin, polyvalent; pyocyaneus vaccin, polyvalent; staphylo-acne vaccin, polyvalent; staphylococcus vaccin, polyvalent; streptococcus vaccin, polyvalent; typhoid vaccin, polyvalent; antigonococcic serum; antistreptococcic serum; normal horse serum, Sophian-Hall-Alexander Biologic Laboratories.

COMMUNICATIONS.

ARRANGEMENTS FOR EXHIBIT APPRECIATED.

Dr. W. H. Cameron, Asst. Secretary,
Pittsburgh, Pa.

Dear Doctor Cameron: We acknowledge your favor of recent date, enclosing clipping from the March issue of the Pennsylvania Medical Journal, referring to the attitude of the association toward exhibitors. We are confident that such attitude will not only be appreciated by the exhibitors but will be the means of bringing them in closer touch with the aims and purposes of the Association.

Yours very truly,

ARCHIVES OF PHILADELPHIA COUNTY SOCIETY.

To the Editor: The Philadelphia County Medical Society is sixty-four years old and began with a membership of 47 and to-day the roster contains 1400 names. It has stood for the same principles for over a half a century, namely, for all that uplifts and elevates the profession. The time has come when it is necessary to record its history and the Committee on Archives contemplates collecting all records of the most important events, and the first step will be the collection of sketches of the lives and photographs of the following founders. The committee would consider it a great help if any of the members of the profession throughout the state, who are in possession of any fact in relation to these men, would send such material to Dr. Samuel P. Gerhard, 639 N. 16th St., Secretary of the Committee.

D. Francis Condie.
George B. Wood.
Henry Bond.
Alfred Stille.
G. Emerson,
Francis West.
William Byrd Page.
George W. Norris.
Wilson Jewell.
Jacob Huckel.
N. C. Reid.
Amos W. Griffiths.
Henry S. Patterson.
Richard J. Levis.
Samuel G.Chamberlaine.
John Forsyth Meigs,
Robert Foster.
Thomas F. Betton.
Henry H. Smith.
Henry F. Leib.
John M. Pugh.
D. Paul Lajos.
James A. McCullah.
Joseph Warrington.
Wm. H. Fingley.
Washington L. Atlee.
David H. Tucker.
Joseph Carson.
Isaac Hays.
Samuel Jackson.
John Bell.
H. Gibbons.
Anthony E. Stocker.
Isaac Parrish.
George Fox.
Thomas S. Reed.
Samuel Lewis.
Chas. M. Griffiths.
M. M. Reeve.
John Neill.
James W. Leiper.
William Curran.
Samuel Jackson. (Late of Northumberland).
Francis Gurney Smith, Jr.

PRELIMINARY PROGRAM OF CLINICS FOR PHILADELPHIA.

(See Editorial, page 575.)

MONDAY.

University Hospital.

J. T. Carpenter, Jr., and E. A. Shumway, Ophthalmic Surgery. Dispensary Service.
J. C. Gittings, Anatomy of Thorax in Infancy and Childhood, demonstrated from frozen sections.
C. A. Fife, Infant Feeding as Practiced in Philadelphia General Hospital.
Maurice Ostheimer, Children's Dispensary.
H. C. Carpenter, Common Ailments of Childhood, exhibition of cases, explaining modern methods in treatment of diseases of children.
G. P. Müller, Intratracheal Anesthesia.
L. H. Landon, Disinfection of the Skin.
B. A. Thomas, Modern Methods of Diagnosis in Lesions of the Kidney.
C. H. Frazier, Surgery of the Kidney.
J. G. Clark, Surgical Treatment of Gastrocoloptosis; Carcinoma of the Uterus.
B. M. Anspach, Operative Treatment of Prolapsus Uteri.
C. C. Norris, Treatment of Sterility.
F. E. Keene, Tuberculosis of the Kidney.
R. T. McKenzie, Turnauer Apparatus for the Application of Dry Heat in Treatment of Joint Conditions; Method Employed in Physical Examination of Students Entering the University; Talk on System of Physical Education.

Medico-Chirurgical Hospital.

W. E. Ashton, Hysterectomy.
E. B. Gleason, Otology.
W. L. Rodman, Amputation of Breast and Pylorectomy for Ulcer.
G. M. Boyd, Obstetrics.
W. C. Hollopeter, Tuberculosis in Children.
Judson Daland, Intravenous Therapy and Injection of Salvarsan.
C. S. Potts, Early Diagnosis of Locomotor Ataxia.
T. H. Weisenburg, Moving Pictures of Gaits, Stations and Reflexes in Nervous Diseases.

Polyclinic Hospital.

W. R. Nicholson, Gynecological Clinic.
C. B. Farr, Physical Examination in Gastric Cases.
L. H. Adler, Jr., Rectal Clinic.
Ralph Butler, Tonsil Operations.
B. A. Thomas, Modern Laboratory Methods in Diagnosis of Genitourinary Diseases, Especially the Dark Field Illuminator in Early Diagnosis of Syphilis.

Methodist Episcopal Hospital.

J. H. Lloyd, Effects of Salvarsan in Treatment of Syphilis of the Nervous System.
L. J. Hammond, Surgery of Gall Bladder and Bile Ducts.
J. M. Spellissy, End Results in Intracranial Neurectomia.
S. W. Dougherty, Interlobar Pathology and Its Diagnosis.
Vincent Lyon, Surgical Pathology, Blood Culture, Technic and Preparation of Vaccines.

St. Joseph's Hospital.

F. H. Maier, Pelvic Surgery.
J. C. DaCosta, General Surgery.
M. M. Franklin, Abdominal Surgery.
P. B. Bland, Mechanical Treatment of Prolapse of the Womb in Elderly Women.
C. F. Nassau, Operations under Local Anesthesia.
S. L. Ziegler, Special Technic in Ophthalmic Surgery.
G. M. Marshall, Operations upon Ear, Nose and Throat.
W. C. Hollopeter, Medical Clinic.
J. M. Spellissy, Treatment of Fractures and Dislocations of the Spine and Pelvis.
W. E. Quicksall, Ear, Nose and Throat.
P. J. Pontius and C. J. Jones, Ophthalmology.

Woman's Hospital.

Catharine Macfarlane, Gynecological Operations: Demonstration of Menstrual Charts, Interesting Cases and Specimens.
E. C. Jones, Exhibition of Marasmus Crib, Measuring Rod and Bottle Holder; Clinical Examination of Stools; Hypodermic Administration of Iron in Anemia.
E. W. Grim, Demontration of New Obstetrical Instruments and Methods.
Sarah Lockrey, Gynecological Operations.
C. M. Purnell, Surgical Treatment of Incontinence of Urine; Demonstration of Vaginal Perforator and Gauze Carrier for Establishing Pelvic Drainage; Forceps for Grasping Gauze when Released from Carrier; Demonstration of Abscess Perforator and Dilator Combined.
Miriam Butt, Eye Clinic.
Margaret Butler, Demonstration of Adenoid and Tonsil Operations and submucous Resection

of the Nasal Septum.
Virginia Fickes, Demonstration of Rupert Ether Vapor Apparatus.

Gynecean Hospital.

J. M. Baldy, Surgical Treatment of Uterine Prolapse.
B. M. Anspach.
H. D. Beyea, The Elevation of the Stomach for Gastroptosis.
T. A. Erck.

Stetson Hospital.

S. E. Tracy, Plastic Gynecological Operations.
B. M. Anspach, Hysterectomy for Fibromyoma.
J. A. Boger, Operations for the Cure of Hernia.
W. B. Odenatt, Medical Clinic.
C. L. Felt, Enucleation of Tonsils.
M. K. Fisher, Exhibition of Interesting X-ray Plates.
G. G. Ross, General Surgical Clinic.

Woman's Medical College Hospital.

F. C. VanGasken, General Medical Clinic.
——————, General Surgery.
E. B. Everett, Gynecological Operations.
——————, Demonstration, Adenoid and Tonsil and Submucous Resection of Nasal Septum.
——————, Demonstration, External Eye and Fundus Conditions.

Blockley Hospital.

H. B. Allyn, Varieties of Pleurisy, Diagnosis.
B. F. Stahl, Aneurysm of the Aorta.
Ernest Laplace, Hernia.
G. P. Müller, Management of Gangrene of the Extremities.
W. G. Spiller, Clinical Lecture.
R. C. Rosenberger, Recent Clinical Methods of Diagnosis.
H. W. Stelwagon, Presentation of Cases.

Philadelphia Lying-in Charity.

Stricker Coles, Treatment of Dystocia Due to Pelvic Deformity.

Presbyterian Hospital.

R. F. Woods, Gynecology.
Joseph Sailer, Gastrointestinal Conditions; Diagnosis and Treatment.

Jefferson Hospital.

E. E. Montgomery, Pelvic Surgery, Abdominal and Vaginal.
S. Solis-Cohen, Some Points in Therapeutics of the Respiratory System.
E. P. Davis, A Group of Obstetric Cases.
E. E. Graham, Cases Representing Different Forms of Gastrointestinal Indigestion in Infants.
D. B. Kyle, Diseases of Accessory Sinuses.
H. A. Hare, Diseases of Cardiovascular System.
J. C. DaCosta, General Surgical Clinic.
F. T. Stewart, Surgery of Gall Bladder.

FRIDAY.

University Hospital.

T. B. Holloway, H. M. Langdon and Carl Williams. Demonstration of Ophthalmic Instruments of Precision (Gulstrand demonstrating ophthalmoscope, Zeiss corneal microscope, Zeiss loupes, Hertel exophthalmometer, modified Bjerrum method of visual field-testing, instruments for determining the light sense).
E. A. Shumway and B. F. Baer, Jr., Ocular Pathology, Demonstrations with the aid of the Edinger projecting apparatus.
J. P. C. Griffith, Top Milk Mixtures in Infant Feeding.
Maurice Ostheimer, Children's Dispensary.
C. A. Fife, Infant Feeding as Practiced in the Philadelphia General Hospital.
G. P. Müller, Chronic Gastromesenteric Ileus.
L. H. Landon, Hemostasis in Cranial Operations.
C. R. Steinke, Problems of Ureteral Anastomosis.
C. H. Frazier, Surgery of the Posterior Fossa.
B. A. Randall, After-treatment of Radical Tympanomastoid Evisceration.
J. G. Clark, Treatment of Pelvic Infection; Myoma Uteri; Cholelithiasis.
B. M. Anspach, Partial Resection of the Uterus for Myopathic Hemorrhage.
C. C. Norris, Operative Treatment of Retroflexio Uteri.
F. E. Keene, Repair of Complete Laceration of Perineum.
R. T. McKenzie, Demonstration of Hydrotherapeutic Equipment and Its Application Shown in University Hospital; Treatment of Flat Foot, Hernia, and Postural Defects by Exercises.

Medico-Chirurgical College.

R. H. Skillern, Nose and Throat.
H. M. Christian, Genitourinary Clinic.
Ernest Laplace, Surgery of Bile Passages.
J. M. Anders, Valvular and Nonvalvular Cardiac Disease with Hydrothorax and the Treatment.
L. W. Fox, Elliott Operation for Glaucoma; Cataract and Strabismus Operations.
J. P. Mann, Scoliosis with Abbott Method of Treatment.
G. E. Pfahler, X-ray Therapy.

Polyclinic Hospital.

M. B. Miller, Surgical Clinic.
R. Max Goepp, Clinical Medicine.
Wendell Reber, Ophthalmological Clinic; Operation.
J. H. W. Rhein, Treatment of Incipient Insanity; Demonstration of Cases.
C. B. Farr, Exhibition of Food Museum.
J. K. Young, Newest Methods of Treatment of Lateral Curvature.
A. Hewson, Ballistic Experiments Illustrating Pistol-shot Fractures of the Skull.
G. M. Coates, Ear Clinic.
G. Hudson-Makuen, Speech Defects and Their Treatment.
B. A. Thomas, Technic of Chromoureteroscopy Employing Indigo Carmine as a Functional Kidney Test.

Methodist Episcopal Hospital.

J. T. Rugh, Operation for Pott's Disease of the Spine; Abbott's Treatment of Scoliosis.
Alfred Hand, Jr., Diagnosis of Meningitis.
L. J. Hammond, Herniotomy; Abdominal Visceral Adhesion.
R. C. Norris and W. R. Nicholson, Surgical Treatment of Retrodisplacement of the Uterus; Surgery of Chronic Pelvic Inflammations.
Walter Roberts, Tonsil and Adenoid Technic.
P. H. Moore, Cataract Operations; Muscle Advancement.

St. Joseph's Hospital.

P. B. Bland, Surgical Treatment of Pelvic Peritonitis.
E. E. Montgomery, Abdominal and Vaginal Surgery.
F. H. Maier, Pelvic Surgery.
C. F. Nassau, Operations under Local Anesthesia.
J. C. Flynn, Medical Clinic.
P. F. Moylan, Medical Clinic.
M. H. Bochroch, Demonstrations of Nervous Cases.
G. M. Marshall, Operations upon Ear, Nose and Throat.
J. M. Spellissy, Orthopedic Surgery.
W. C. Hollopeter, Medical Clinic.
W. E. Quicksall, Ear, Nose and Throat.
P. J. Pontius and C. J. Jones, Ophthalmology.

Woman's Hospital.

M. K. Formad, Gynecological Operations.
C. T. Dercum, Demonstration of Clinical Charts for Differentiating Nervous Disorders from True Pelvic Disease, Illustrated by Cases.
F. C. VanGasken, Demonstration of Diet Charts and Their Application in Cases of Disturbed Carbohydrate Metabolism.
F. C. VanGasken and E. M. Weyl, X-ray Demonstration of Interesting Cases.
M. L. Diez, Obstetrical Clinic.
K. W. Baldwin, Demonstration of Violet Ray in Treatment of Painful and Septic Surgical Conditions and as an Aid in Diagnosis.
L. S. Cogill, Obstetrical Clinic.
E. E. Musson, Direct Laryngoscopy; Intrabronchial Treatment of Bronchiectasis.
F. R. Sprague, Surgical Clinic and Demonstration of New Instruments.

Gynecean Hospital.

H. D. Beyea, Elevation of the Stomach for Gastroptosis.
T. A. Erck.

Stetson Hospital.

S. E. Tracy, Abdominal Gynecological Operations.
J. A. Boger, General Surgical Clinic.
Isaac Leopold, Operation for Cataract.
C. L. Felt, Tonsillotomies.
W. B. Odenatt, Medical Clinic.
M. K. Fisher, Demonstration of Therapeutic Results of X-ray Treatment.

Woman's Medical College Hospital.

T. LeBoutillier, Treatment of Summer Diarrhea.
H. C. Deaver, General Surgery.
——— Transillumination; Mastoid Process; Eustachian Tube Work; Functional Testing of the Labyrinth.

Blockley Hospital.

C. K. Mills, Hemiplegias and Aphasias.
C. W. Burr, Diagnosis of Paresis.
S. Solis-Cohen, Some New Points in Treatment of Cardiovascular Disturbance.
D. J. McCarthy, Mental Disease Associated with Pulmonary Conditions.
Joseph Sailer, Chronic Joint Disease.
E. H. Siter, Genitourinary Surgery: Prostatectomies.
T. H. Weisenburg, Syphilis of Nervous System.

State Tuberculosis Dispensary.

A. P. Francine, Tuberculin Class; Discussion of Technic, Results; Demonstration of Cases.

Philadelphia Lying-in Charity.

G. M. Boyd, Obstetric Surgery.

Presbyterian Hospital.

G. M. Laws, Demonstration of Cystoscopy and Methods of Determining Kidney Function.
J. H. Jopson, Surgery; Demonstration of Intratracheal Anesthesia by the Elsberg Apparatus.
G. C. Stout, Tonsillectomy.
J. E. Talley, Modern Methods in the Study of Heart Disease.

Jefferson Hospital.

Thomas McCrae, Aortic Aneurysm.
F. X. Dercum, Hysteria.
J. H. Gibbon, Duodenal Ulcer and Ureteral Stone.
H. A. Wilson, Clinical Interpretation of Radiograms Showing Bone Atrophy.
H. R. Loux, Surgery of the Kidney.
H. W. Stelwagon, Eczema and Psoriasis.
S. MacCuen Smith, Treatment of Mastoiditis.
H. F. Hansell and W. M. Sweet, Ophthalmic Operations.
W. F. Manges, X-ray Demonstrations.

DAY NOT DESIGNATED.

University Hospital.

Edward Martin, J. B. Carnett and E. L. Eliason, Treatment of Fractures: Conservative; Operative; fracture of upper extremity of humerus: demonstration of dressings; plaster of Paris; traction. Fractures of upper extremity of femur; so-called intracapsular fracture of curable condition, (1) by double traction and support, (2) by plaster of Paris in the abducted position: demonstration of casts and application of dressings. Operative Treatment. Demonstration of Patients; lantern slides, apparatus, operations; after treatment; the Bradford frame; double and triple traction. Ambulant treatment. Application of dressing. Operations on urinary tract. The approach: lantern slides and demonstrations of patients; prostatectomy. Operations: Conservative and radical treatment of enlarged prostate: Demonstrations of methods.
T. T. Thomas, Operations on the Shoulder.
J. B. Deaver, Abominal Surgery.
G. G. Ross, Diagnosis and Treatment of Some Special Fractures of Interest.
A. D. Whiting, Modern Treatment of Leg Ulcer.
D. B. Pfeiffer, Treatment of Glandular Swellings of Neck.
A. C. Wood, Osteoplastic Trephining; Modification of Usual Method of Trephining.
B. C. Hirst, Operations from the Following as Clinical Material Permits: (1) Anterior vaginal hysterectomy and posterior vaginal puncture. (2) Operation for obstructed labor: Forceps, pubiotomy, vaginal, classical and extraperitoneal Cesarean sections. (3) Salpingo-oöphorectomy; dilatation of abdominal orifices of tubes (an operation to replace salpingostomy); artificial sterilization. (4) Panhysterectomy (Wertheim's); supravaginal, extraperitoneal supravaginal and partial hysterectomies. (5) New Methods of pelvic floor repair with an original technic for di-

rectly joining the levator ani and the deep transverse perineal muscle. (6) Modern technic for operative cure of cystocele and injury of muscle and fascia of the urogenital trigonum. (7) Total prolapse. (8) Complete laceration of the perineum, with dissection and direct junction of the sphincter. Exhibition of much the best teaching collection in obstetrics of instruments, models, casts, wall charts, etc., possessed by any medical school in America the growth of more than one hundred years, contributed by Shippen, James, Dewees, Hodge, Penrose and the present incumbent. Treatment of pyelitis by washing pelvis of kidney with two way catheters. X-ray photographs showing positions, presentations and relative size of the fetus in utero. Exhibition of modern instruments, new models of cervical bags, newest models of axis traction forceps, sharp angulated hook for decapitation, fillet carrier on the cannula principle, abdominal retractors for Wertheim operation, forceps used in Brumm clinic for clamping the vagina, metranoikters, etc.

G. G. Davis, Club Foot, Early Treatment by Manipulation and Supports; operative treatment section and redressment forcé; postoperative treatment. Paralytic Deformities, treated by operation (Davis', Whitman's, and others); manipulation and apparatus. Congenital Luxation of Hip, Davis' method demonstrated; important points in application of plaster and in after-treatment emphasized. Tuberculous Caries of Spine, treatment in bed with special frames; by operation (A. H. Hubbs); by plaster jackets and apparatus. Tuberculous Arthritis of Hip, Knee and Ankle, treatment, bed and ambulatory with the application of special frames, plaster casts and apparatus; importance of proper casts demonstrated. Scoliosis, treatment by casts and apparatus combined with corrective gymnastics; cases shown after treatment by Abbott casts. Flat Foot, treatment by exercise, special shoes, etc. Sacroiliac Sprain, treatment by special supports.

T. R. Neilson, Operative Clinic.

E. H. Siter, A. A. Uhle, W. H. Mackinney, J. L. Laird, J. L. Hermann and B. A. Randall, Modern Genitourinary Dispensary Diagnosis and Treatment, including cystoscopy, functional kidney tests, fulguration of bladder tumors, urethroscopy, anterior and posterior; diagnosis of syphilis, dark field microscope, Wassermann reaction, luetin reaction; intravenous administration of neosalvarsan; gonorrhea, complement fixation test, serum and vaccine therapy; genitourinary tuberculosis.

R. M. Pearce, J. A. Austin, O. H. P. Pepper, M. M. Peet, C. A. Farr and Williams, Demonstrations of (1) Abderhalden's biological test for pregnancy, (2) use of Frank's capsule in cardiovascular studies, (3) Sahli's sphygmobolometer, (4) method of teaching students the use of the polygraph, (5) phenosulphonephthalein test in diagnosis of renal insufficiency, (6) Folin's new methods for estimation of total nitrogen, urea and uric acid in the blood, (7) anaphylactic shock in the dog, (8) mode of action and influence of various drugs on blood pressure, organ volume, etc., in the dog, (9) methods of testing resistance of red blood corpuscles in health and disease, (10) proof that corpuscles with increased resistance are the newly formed corpuscles, (11) minute structure of the red blood corpuscles in anemia, Jolly bodies, Heinz corpuscles, skeins, etc.), (12) clinical method of studying the clotting of plasma, (13) Rose's clinical method for estimation of pepsin in gastric secretion, (14) difference in results of gastric analyses due to use of different indicators.

H. K. Pancoast, Gastrointestinal Diagnosis; Fluoroscopic Demonstration; Diagnosis of Pituitary Lesions and Other Head Conditions; Demonstration by Stereoscopic Plates (X-ray Laboratory).

A. N. Richards, Demonstration of the Action of Drugs upon Surviving Organs.

E. T. Reichert and Edward Lodholz, Instrumental Demonstration of Variations of the Circulation Applied to Clinical Conditions; Optical Demonstration of Physical Defects of Vision and Their Correction.

C. K. Mills and W. G. Spiller, Neurological Lectures.

C. P. Grayson, The Verity of Tonsillectomy with the Tonsillotome, Demonstration of technic and advantages; Group of cases, simpler methods of exploring and treating accessory nasal sinuses.

A. J. Smith, Demonstrations and exhibitions to present in concrete form the various themes presented in program of session; Serum Diagnosis of Syphilis; Verminous and Protozoan Parasites of Interest to Medical Practitioners.

G. A. Piersol, Anatomy of Inguinal Hernia, illustrated by dissections.

T. T. Thomas, Anatomy of Luxations of the Shoulder illustrated by preparations.

George Fetterolf, Demonstration of Frozen Sections of the Thorax, illustrating the anatomic relations of certain physical signs.

W. H. F. Addison, Demonstration of the Structure and Development of the Eye.

Stomach Hospital.

Lewis Brinton, Modern Methods of Treatments of Diseases of the Stomach: Gastric carcinoma, biologic and clinical factors; early recognition of cancer of the stomach, clinical laboratory methods; relation of chronic gastric ulcer to carcinoma of the stomach; differential diagnosis.

German Hospital.

A. D. Whiting, Wounds, and Chronic Ulcers, and Their Treatment.

G. G. Ross. Fractures and Fracture Dressings.

J. B. Deaver. Surgical Clinic.

Vincent Lyon, Wassermann Reaction: Blood Examination.

D. B. Pfeiffer, Surgical Pathology.

A. A. Uhle and W. H. Mackinney, Diagnosis and Treatment of Syphilis; "606" Injections. Cystoscopy; Ureteral Catheterization.

A. G. Miller, X-ray Photography and Therapeutics; Fulguration; High-frequency Current.

Wills Eye Hospital.

Special Clinics.

SOCIETIES.

WILLS HOSPITAL OPHTHALMIC SOCIETY.

Meeting of January 7. Dr. William Zentmayer, Chairman.

Sympathetic Optic Neuritis. Dr. S. D. Risley presented a boy, aged 7 years, who had received a blow from a fragment of wood on the left eye. He was seen on October 8, 1912, because of failing vision in the injured eye, when the lens was found swollen and gray. There was some tenderness of the ball to palpation and slight ciliary injection. The right eye was healthy.

With the use of atropin locally the injection of the ball rapidly subsided, but the lens became opaque throughout. On October 9 a discission was made and later soft lens substance evacuated. The operation was smooth and without unusual incident. A week later there were adhesions between pupillary rim of iris and lens capsule, and the anterior chamber was deep, the iris being apparently drawn back by the synechiæ.

In December, boy complained of seeing badly with right eye, which was at first thought to be due to refractive error (plus 2.50 cyl. ax. 80°) but after careful correction vision was found reduced to 6/xxx and the field of vision concentrically contracted to approximately 30° at its widest part. Optic nerve was a gray red, slightly swollen and its margins veiled. There were no demonstrable macular changes and if there were scotomata they were not recognized by the boy.

On December 20 a Muhle's operation was performed on injured eye, care being exercised to remove every vestige of the uvea and a snugly fitting glass ball inserted. Convalescence was rapid and uneventful. The field of vision had markedly increased on January 2 and was typical normal field on January 7, 1913; central vision with the correcting glass was 6/ix.

Optic neuritis had entirely disappeared, fundus and nerve presenting the appearance of health. Dr. Risley presented the case as one of transferred or sympathetic optic neuritis, which had in his experience been very rare

Dr. Zentmayer had seen two cases of sympathetic neuritis, one following a gunshot wound of eye. Here there was a very pronounced neuritis and the case ran a protracted course but result had been very good. In the second case there had been an extensive cut of the cornea with traumatic cataract. Neuritis was of a moderate degree but it ran a long course and terminated in full recovery. He thought Dr. Risley's patient was fortunate in the very rapid subsidence of inflammation. It will be recalled that Dr. Thomas of New York reported two cases and reviewed the literature of this disease at the last meeting of the A. M. A. This analysis showed that prognosis of this type of sympathetic inflammation was much more benign than where uveal tract was involved.

Saemisch Incision. Dr. P. N. K. Schwenk reported a case in which he had performed the Saemisch incision. Patient, a stonemason aged 33, came to the Wills Hospital on November 21, 1912. About seven days previous to his visit to the clinic he was struck in right eye by a flying piece of stone. An examination revealed an ulcer of the cornea with a large, partially organized hypopyon. Pupil was partially dilated. In spite of cauterization with carbolic acid, eye became gradually worse. On November 24, Dr. Schwenk did a Schwenk-Saemisch incision, with the result that on December 21 patient was discharged, cured.

Intrauterine Uveitis. Dr. W. C. Posey showed a baby with congenital pseudoglioma in one eye and coloboma of iris with ophthalmoscopic signs of an old choroiditis with secondary atrophy of the optic nerve in left eye. Conditions were present at birth, eyes being free from signs of inflammation at that time. Dr. Posey attributed the condition to an inflammation of the mesoblastic tissues concerned in the formation of the embryonal eye, in consequence of syphilis in mother. Condition of pseudoglioma which existed in right eye was, in his experience, unique.

The Complement Test and the Use of Salvarsan in Ophthalmology. Dr. John L. Laird addressed the society by invitation and called attention to the slight unreliability of the complement test as generally performed and the consequent use of only personal observations as a basis for the statistic report and estimation of value.

As syphilitic affections of the eye are merely manifestations of general syphilis, the value of the test in the diagnosis, therapeusis and prognosis of these conditions is the same as in general syphilis. A positive reaction means syphilis and a negative reaction, where the effects of treatment can be excluded, means no syphilis; the above conclusions being based on three years' work on 5400 reactions on 3000 cases. Possibility of the concomitant existence of general syphilis and pathologic conditions of a nonspecific nature is mentioned.

Brief statistics cover 149 cases of various ophthalmologic conditions in known syphilitics, giving 96.2 per cent. of positive reactions; in known nonsyphilitics 100 per cent. negative; and in suspected cases, 17.5 per cent. positive. Danger of too highly estimating diagnostic value of therapeutic test in ophthalmology was spoken of and reasons stated. Attention was called to the important point in treatment of syphilitic conditions of eye that it should be of general syphilis usually of virulent type, and should be governed by the course, as shown by complement fixation test and not by local clinical manifestations. Therapeutic value of salvarsan and neosalvarsan is same in syphilitic affections of eye as in general syphilis. Most of these conditions respond rapidly. Certain severe forms of interstitial keratitis, however, are obstinate and require several injections before improvement is observed; all of these cases in author's experience, whether hereditary or acquired, have been not only improved but cured, if sufficient treatment was administered. There are no ophthalmologic contraindications to the use of salvarsan or neosalvarsan, and with general contraindications absent, the most important of which is nephritis, salvarsan or neosalvarsan is by far the most effective remedy at our command in treatment of syphilitic ophthalmologic conditions.

Dr. Posey said that while salvarsan had rendered him undoubted service in treatment of ocular affections due to acquired syphilis, his results from use of this drug in interstitial keratitis due to inherited lues has been very discouraging, in some cases even aggravating symptoms.

Dr. Zentmayer said that recently in going through the wards with a visitor and a colleague he had been asked: "Are the surgeons at Wills treating interstitial keratitis with salvarsan?" He had replied that they were not, because no results had been obtained, and my colleague said he was not because at present time he had under his care two cases of optic nerve disease resulting from salvarsan. It is to these two replies that I wish to direct my remarks. In explanation of his own reply he wished to say, however, that he had had exceptions. At the present time he has at Polyclinic Hospital the most severe case of interstitial keratitis that he has ever seen. Cornea was infiltrated throughout, was soft and slightly staphylomatous, and vascularity was of the "epaulette" type. There was a strongly positive Wassermann. Inunctions and KI failing to arrest progress of inflammation, it was decided to try salvarsan. After first injections of .6 grams of neosalvarsan there was no improvement noted, but after the second, given one week later, improvement was remarkable. At present, congestion and vascularity have entirely disappeared and the exudate is undergoing absorption. Cause of unsatisfactory results heretofore reported is probably the failure to repeat injection. As to occurrence of neuritis after salvarsan, he believed that it is generally held that this is not due to actions of salvarsan upon optic nerve but that it is syphilitic in nature and due to increased activity of spirochaetes so situated as not to come under action of drug. If salvarsan is repeated, it is said that neuritis clears up.

Cerebrospinal Syphilis with Unusual Ocular Lesions. Dr. Posey exhibited a man, the subject of cerebrospinal syphilis, with complete bilateral ophthalmoplegia interna, and involvement of most of the extraocular muscles of both eyes. Both optic nerves were seat of a secondary atrophy. Dr. Posey exhibited the case particularly to show effects of tenotomy of inferior oblique muscle of left eye, a secondary contraction of this muscle in consequence of a paralysis of both elevators of right eye having occasioned marked postural changes in muscles of head and neck.

In speaking of the differential diagnosis between the ocular symptoms of tabes and cerebrospinal syphilis, Dr. Posey stated the observation of Groenouw that the Argyll-Robertson pupil is generally indicative of tabes, and unilateral ophthalmoplegia interna of syphilis. Syphilitic palsies as a rule, affect the entire nerve or a greater number of its branches, while a single muscle is involved in tabes. Dr. Posey said it had been his experience that inequalities in size of pupil and disturbance in its reaction are found in early stages of cerebrospinal syphilis often associated with optic neuritis, while palsies of extraocular muscles as a rule belong to later stage. When syphilitic palsies do occur in early stages, they develop more gradually and persist longer, tabetic palsies manifesting a tendency towards speedy disappearance and frequent recurrence. Conjugate deviations and ophthalmoplegia externa are caused almost exclusively by syphilis.

Dr. Posey exhibited a series of pictures which illustrated the effect of tenotomy of the inferior oblique muscle in a series of cases where there had been an overaction of this muscle. He said the chief indication for performance of operation is upward and inward tilting of eye which can be seen when eyes are directed to extreme right or left, when there is paresis of right or left superior rectus muscle. Technic of operation is simple, the tendon of the muscle being divided close to its origin at lower inner angle of orbit, by an incision which is made through the lid, somewhat lower and more external than that which is made for removal of the lacrymal sac; insertion of a strabismus hook through the wound, and upward movement of eye following traction upon tissues indicate that the tendon of the muscle has been caught. Division of tissues on the hook follows. Healing had been prompt in all cases operated upon by Dr. Posey, and there had never been any complications.

Dr. H. W. Rhein said that at Dr. Posey's request he had examined that patient at the Howard Hospital with the following results: There was no other cranial nerve involvement, outside of eye conditions which Dr. Posey has described, with exception of a weakness of facial muscles around mouth on left side. Sensation all over body was intact. There was a distinct Romberg and gait was ataxic. Knee jerks were absent and not reinforcible. There was a Babinski phenomenon on right side. He has had for the last year, besides sharp shooting pains, incontinence of urine. The ataxia began two years ago. At first sight this case appears to be one of tabes. Permanent ocular palsies dating four years before the onset of the ataxia are unusual, however, in tabes, the usual form of ocular palsy being of a transient character. It may be said, however, that while a complete ophthalmoplegia is unusual, it is in rare instances present in tabes. The incontinence of urine is another symptom which is present in tabes but it is usually a late symptom. It will be remembered that in this case the incontinence of urine made its appearance one year after the onset of the ataxia, and has been persistent ever since. The presence of the Babinski phenomenon, incontinence of urine and persistent ocular palsies dating four years before the spinal symptoms all pointed to a diagnosis of pseudotabes, which, as is known, is of syphilitic origin. The syphilitic infiltration of the meninges attacks the posterior roots and causes an ascending degeneration in the posterior columns. There is also an involvement of the other tracts of the cord from extension of thin infiltration, and of cranial nerves at base of brain.

Tinted Glasses for Optical Purposes. Dr. J. C. Attix addressed the society by invitation on the results of experiments he had performed to determine the effects of cutting out or rendering less irritating certain rays of light. These experiments were begun in 1901 from observing cases of marked irritation and photophobia in workers who were engaged around blast furnaces where electric arcs of exceeding brilliancy were used for melting iron, from a similar method used for drilling armor plate, and from electricians operating switches where a short circuit was made and so-called flashes resulted. That ultra violet rays are present in sunlight and artificial light also is no new knowledge.

The actinic rays are capable of performing certain chemical changes which other rays will not. There seems to be no division of opinion that these actinic or chemically active rays will produce the irritation that is often observed in those working under artificial light of great intensity, or in individuals whose eyes are particularly sensitive even to ordinary light. Dr. Attix found from experiments with different colored glass, using ordinary colorless, blue, red, green, amber, purple and violet, that violet is the most opaque to irritating rays, if as we believe the actinic rays are the most active and irritating as well: next to this is purple. It would seem that the purple and violet, being more or less complimentary of yellow, would have this property more or less pronounced. That any kind or color of glass will cut out some of the irritating rays no one denies, but it would seem from his experiments that violet will cut out more of these than any other shade or color.

Dr. Posey congratulated Dr. Attix upon the merit of his paper which was upon a subject now engrossing the attention of the scientific world. All had doubtless encountered cases in their practice of so-called sunburn of the eyes, and recognized the futility of attacking such forms of conjunctivitis by ordinary measures. Dr. Attix's statement that he had entirely relieved such an inflammation of the conjunctiva by a tinted glass was of great clinical interest. Dr. Posey recounted some of the dangers to the eye of excessive light and gave details of a case of cataract which he had recently successfully operated upon, where the lenticular capacity had been caused by a blinding flash in consequence of short circuiting of an electric light. He recalled Louis Bell's experiments as a result of which that scientist had concluded that amber tinted glasses afforded the best protection to eyes from injurious ultra-violet rays. Dr. Posey said that his own experience had taught him that the best protection which could be afforded eyes from excessive light was diminution in its intensity through medium of London smoke glasses. He doubted if there was scientific proof as yet to confirm clinical observations that certain tints of glass which altered the spectral quality of light had any real beneficial effect upon the eyes. He could not conceive why lenses which had their color changed by the effect of direct sunlight should necessarily be a protection to the eye.

Dr. Schwenk stated that the color of a glass must be in direct ratio to the amount of retinal irritation. He agreed with Dr. Posey that color diminishes visual acuity. Color that has afforded greatest relief in his experience is the Fieuzal tinted glasses. Dr. Schwenk himself was relieved of a central scotoma caused by looking into electric lights, by use of this glass.

Dr. McCluney Radcliffe spoke of his favorable experience with amethyst glasses in cases of hyperesthesia of the retina, and with those who worked on bright-colored substances, such as seamstresses, engravers and gold beaters. He said that a number of his patients had used them with perfect comfort at the seashore, and in traveling, instead of the disfiguring smoked glasses. They soften light but do not darken objects, and are scarcely distinguishable from ordinary glasses except when seen on the edges.

J. Milton Griscom, Secretary.

PHILADELPHIA POLYCLINIC OPHTHALMIC SOCIETY.

Meeting of December 12, Dr. Wendell Reber in the Chair.

Altitudinal Hemianopsia, Unilateral and Bilateral. Dr. Luther C. Peter reported two cases which were in some ways unique. One, unilateral, was due to embolism of inferior artery of retina in a married woman, aged 30, with characteristic history of embolism. Pupils were equal, reacted to light, accommodation, and consensually; eyes steady under cover. Wernicke's phenomenon was incomplete; all external ocular muscle movements good. Fields in right eye were somewhat contracted, especially for form; in left eye, some slight contraction for form and color in inferior half, with total blindness above, running horizontally above center. Heart and renal conditions were normal. Patient's general build was frail; she reported that at time of visual failure her health was not up to par.

Restoration of upper half of retina was due in all probability to anatomic arrangement of vessels and location of embolus, thus allowing the blood to pass gradually into superior vessels, while inferior branches remained closed. Macular region was not included in blind area.

The other case, binocular superior, occurred in a married woman, aged 41.

As to location of lesion the facts pointed to inferior surface of chiasm. Bilateral superior hemianopsia followed promptly by atrophy of inferior half of optic nerves, must necessarily be in or about optic chiasm. Sudden appearance, also atrophy of optic nerve following the development of the hemianopsia, points to a lesion well forward, either in or anterior to chiasm. Anesthesia of left face, arm and hand at time of onset suggest a disturbance well back in tracts near peduncles, or primary optic centers. As patient was profoundly neurasthenic it may have been but another phase of her functional disturbance when she discovered the blindness in upper fields. If organic in origin, it is not difficult to conceive a gummatous basal meningitis involving the chiasm and extending back towards peduncles or primary optic centers.

A comparative study of fundus changes in these cases is interesting in contrast. Changes in disk and retina of the unilateral case are nutritional in origin. Dividing line is well marked in disk, and even in size of vessels, the inferior arteries being little more than one half the size of superior vessels. This is in marked contrast to the second case, which furnishes a picture of postneuritic atrophy. Pallor in one half the nerve head is common to both cases, but in latter the disk is not clear, edges being veiled and porous opticus invisible, while arteries and veins are fairly uniform throughout.

Dr. Posey, discussing, recalled that loss in field of a hemianopic type sometimes results from vascular changes in nerve itself or from pressure of atheromatous vessels upon nerve. Of course no pure chiasmal lesion could occasion a complete loss of vision in whole of upper fields of both eyes, as nasal halves would necessarily be uninvolved. To explain a loss such as had occurred in Dr. Peter's case, it was necessary to look for a lesion anterior or posterior to chiasm. He referred to loss in upper fields of vision following chiasmal disease and to the value of *x*-ray study in determining nature of lesion. Even vague shadows obtained from radiographs should be regarded as positive findings. Operation by method recently devised by Frazier gave more promise of relief than earlier procedures.

Dr. Zentmayer said loss of one half of field of vision, due to retinal changes or to optic atrophy, is not unusual. He recalled a case of obstruction to central artery of retina in which recovery of superior half of field occurred rather late. Similar defects are found to be quite common in amblyopia resulting from general hemorrhages. He has reported elsewhere a case of so-called inferior hemianopsia. Following long continued attacks of temporary obscuration, inferior field finally became permanently blind. Upper half of optic nerve is atrophic. Superior half of opposite eye is now having repeated attacks of obscuration. Cause was probably arteriosclerosis of ophthalmic artery producing pressure upon nerve at point of entrance into orbit.

It would be better not to use the term hemianopsia in such cases, especially where there are similar defects in the two eyes, as this term should be limited to symmetrical half-field blindness due to a central lesion.

Reflex Symptoms Resulting from Low Degree of Muscle Imbalance. Dr. Leighton F. Appleman's communication had to do with hyperphoria only. Patients often show only a shade of vertical deviation with Maddox rod for distance, but if test includes an estimation of muscle status at reading distance, an error of 1 to 2 or more degrees may become manifest. If then a prism of one fourth or one half of the strength found be placed before the eye, together with Maddox rod, and patient be directed to gaze on the light, he will often show a perfect balance. In other words, he is suffering from latent hyperphoria. which is just as potent in causing reflex symptoms as is latent hyperopia and astigmatism. As in hyperopia and astigmatism, it is often the small error of ½ or ¾ of a degree which prevents an otherwise perfect result from use of glasses.

Of a series of 181 cases prescribed for during the last fifteen months, 64 were given correction for hyperphoria, and of these, only 13 were given a prism of over 1 degree, leaving a balance of 51 who showed hyperphoria of less than 1 degree. All these patients expressed relief, as though a strain were taken off the eyes when prism was put on over their correction, and subsequent reports have shown continued relief.

Conclusions from study of these cases, are (1) that many persons suffer for years with headaches and reflex symptoms, for which they have been drugged and their glasses changed many times, without attention to muscle balance, and therefore without relief which should attend their use; (2) that patients suffer from latent hyperphoria just as much as from latent hyperopia and astigmatism; (3) that recognition and correction of low degrees of vertical imbalance, in addition to their refractive error, is of utmost importance to comfort of patient.

Dr. Zentmayer, discussing: Whether or not to order prisms in low vertical errors before finding out whether correction of refractive error alone will not do away with symptoms of which patient complains must be decided by one's own experience. Dr. Appleman speaks of change in refraction as having been insufficient to produce symptoms of which patient complained and that therefore the small vertical muscular anomaly was taken into consideration. I do not believe it possible to determine whether change in refraction was cause without first having made necessary change in glass. It is often the smallest errors that produce the most pronounced symptoms. My own practice has been and is to ignore hyperphorias under 2½ degrees in first ordering glasses. I have rarely had to incorporate a prism because correction of refraction error failed to relieve symptom. I believe that I have not ordered prisms for errors of this degree in ten cases in twenty-five years of practice. I attribute this to doing refraction work under complete cycloplegia induced by atropin and ordering glasses while effects of drug were still active. Of course higher degrees may require correction and tenotomy is a very suitable means of treating such cases. In rare instances hyperopia increases after partial correction with prisms. I believe these cases to be due to congenital palsies with contractures which perhaps relax after prisms have been worn for a time. I have removed far more prisms than I have ever put on.

Dr. Posey said that several years ago he made a clinical study of 287 cases of hyperphoria and found that when properly searched for, hyperphoria of 1 degree or more will be found to exist in about 13 per cent. of all cases of refraction. Latent hyperphoria is of frequent occurrence and develops quite indepenently of age. He found that correction of errors of refraction is not sufficient in majority of cases to bring about a disappearance of any existing hyperphoria, as he had observed that hyperphoria makes itself manifest the longer the glasses are worn, increase in hyperphoria occurring whether or not vertical prisms have been incorporated into formula. While somewhat skeptical regarding some of the reflexes which eye-strain was supposed to originate, it has been his experience that hyperphoria frequently gives rise to headache, that of supraorbital variety predominating. In a small proportion of cases, it will be unilateral, usually on same side as eye with poorest vision. Typical attacks of migraine may be expected in about 5 per cent. of cases of hyperphoria. A symptom of frequent occurrence and of great value in directing attention to the hyperphoria consists in an associated reflex in supply of facial nerve. This may manifest itself either in a unilateral twitching of lids, as in nictitation, or more rarely by a pronounced blepharospasm. He decried the use of prisms in all cases, prescribing them only when they seemed particularly indicated, and then only partially correcting the error. He would not, however, like to practice ophthalmology without the use of prisms.

Dr. Peter's experience has been that vertical prism was of great use in properly selected cases when refractive correction had proved insufficient and there was no general disorder to account for residual symptoms.

Dr. Sweet: I do not use a great many prisms and never use prisms base in or base out, but I do use prisms base up and base down. I never give a prism at first test; I always watch patients until they have worn their glasses for awhile. If I find they have 1 degree of hyperphoria I always give them a 1 degree prism.

Dr. Reber: It is rather foolhardy to rush in with vertical prisms at a first examination. Other things being equal it is the part of wisdom to give patient a full chance with refractive correction; but where there is a hyperphoria of 1½ to 2 degrees that is producing symptoms, when good refraction has been unavailing, I would give them half of their infinity correction. It is a mistake to give them the full correction at once; if there is a total of 2 degrees I should not give them more than 1, and there is no question but that the average person who puts on prisms will later show a great hyperphoria than when prisms were first put on. My own case is an illustration. I had no trouble in showing 1, 1½, then 2 and finally 2½ degrees of hyperphoria. I have reached, I think, my full degree of hyperphoria, and I have now worn the same vertical prisms (2½°) for nine years. I think there is nothing truer than the existence of latent hyperphoria. I have seen many cases that show at first but ½ degree, and have shown as much as 1½ to 2½ degrees in ten minutes by uncovering tests to break up fusion. If that is not latent hyperphoria, what is it? As to unequal hyperphoria in the two eyes, certain patients will show higher hyperphoria in one eye than the other, which I believe indicates some slight degree of paresis of superior rectus in hypophoric eye. There is no end to reflexes that may be set up by hyperphoria, commonest ones being probably the gastric ones.

D. Forest Harbridge, Secretary.

COUNTY SOCIETY REPORTS.

ALLEGHENY—February.

The Allegheny County Medical Society met February 18, with Dr. John W. Boyce in the chair.

"The Friedmann Tuberculosis Treatment" was presented by Dr. T. W. Grayson. Dr. Grayson was in Berlin but did not hear paper read by Dr. Friedmann before Berlin Medical Society, in which he reported cases treated by his culture. He had talked with Berlin and American physicians who had heard it and few were enthusiastic about it. The culture, according to Friedmann, contains curative antigens, harmlessness of which was demonstrated by innoculating himself and nontuberculous children. Physicians examining some of the cases after treatment stated that results were not satisfactory. Eight years ago Dr. Friedmann presented a similar claim which met a discouraging fate and this culture is looked upon with suspicion as it is not used in Berlin hospitals.

"A Study of the Alimentary Canal after a Bismuth Meal" was presented by Dr. R. H. Boggs who showed *x*-ray plates which demonstrated, beyond a doubt, that a systemic study of this canal after a bismuth meal is an essential preliminary to treating all chronic conditions of abdomen, both medical and surgical. Patients are given four ounces of bismuth subcarbonate with buttermilk and a series of plates taken at different intervals to record progress of meal.

Time table in health is as follows: Stomach begins to empty itself at once and should be empty in five hours; contents after leaving stomach, passes rapidly through small gut and reaches cecum in about four hours after meal. Six hours after meal the bismuth reaches hepatic flexure; three hours later, it reaches the splenic flexure; sigmoid at twelve hours after meal, and it passes through sigmoid at defecation in twenty-four hours.

Any material deviation from this time table was shown to have been due to mechanical obstruction which caused stasis or delay of contents in some part of bowel. Symptoms of such a condition are, mainly, a chronic toxic poisoning. There may, or may not be abdominal distress; constipation is the rule, lack of energy, appetite poor, bad breath, bad taste in mouth, skin often stained a deep brown. Myalgias and arthralgias are common. These patients are usually neurotic, emaciated and asthenic. In females, degenerative changes have been noted in the breasts. Gastric symptoms are numerous. As a result of long-standing cases of stasis secondary changes occur in liver and kidneys, as well as chronic pancreatitis, cholecystitis and cholelithiasis.

Causes of obstruction are ptosis of the transverse colon, movable cecum, dilated rectum, Lane's kink, neoplasms, etc. Diagnosis depends upon careful interpretation of plates and is not difficult in hands of an experienced radiographer.

After reviewing the anatomical position of normal stomach as outlined by *x*-ray in different positions; he described in detail and showed plates of obstruction to bismuth in various parts of the canal. Kinks are more common at the ileocecal junction, hepatic and splenic flexures. Ileocecal obstruction is due to Lane's kink and the others are due to stasis of transverse colon acting upon fixed hepatic and splenic flexures and later producing ptosis of these in addition to kidneys and stomach.

Many of these cases have been operated upon symptomatically and cause of trouble not recognized. Few were, as a rule, benefited by operation and many were made worse.

J. Harry Collins, Reporter.

DAUPHIN—March.

Dauphin County Medical Society held its regular monthly meeting in the Academy of Medicine Building on March 4, with the regular officers in their chairs.

Following the business session, the evening was devoted to an "Experience Meeting," at which time matters of interest to the profession in the county and city were brought up and discussed. Among those of especial interest were the questions of length of quarantine of contagious and infectious diseases, especially scarlet fever, and the question of cases of death for which the coroner should issue the death certificate. Norman B. Shepler, Reporter.

HUNTINGDON—February.

The Huntingdon County Medical Society met February 13, at Huntingdon, with Vice-president Steel in the chair and sixteen members present, who agreed that this meeting was the best in a long time.

A paper on "Blood Examination" was read by Dr. J. M. Steel. The necessity of blood examination in many diseases and in operable conditions is a necessity. The number, shapes and sizes of the blood cells, the hemoglobin and other constituents are of importance to the practitioner who wishes to get the best results.

A paper on "Graves' Disease" was read by Dr. C. B. Bush. The causes, diagnosis, hygienic and drug treatment of hyperthyroidism and its surgery were interesting and both papers were ably discussed.

J. M. Keichline, Jr., Reporter.

LACKAWANNA—February.

On February 11, the Lackawanna County Medical Society enjoyed a treat at the hands of Mr. George Cunningham, field secretary for the Scranton Life Insurance Company. Mr. Cunningham on "The Alarming Increase in the Death Rate from Heart Disease, Bright's Disease, and Apoplexy," pointed out that it is difficult to compare the death rate from 1880 to present time, owing to difference in methods of collection of data and changes in classification; also that the deaths for 1880, 1890, and 1900 relate to United States as a whole, and those for 1910 only to registration area; therefore precise comparison can not be made.

So far as the records are available death rate in 1880 from heart disease was 5.20 per 10,000 of population. In 1890 it had increased to 7.18 per 10,000. In 1900 the deaths were 9 to each 10,000, an increase in the rate of 92⅓ per cent. over that of 1880. In 1880 rate for Bright's disease was 1.07 per 10,000; in 1890, 1.86 per 10,000; in 1900, 4.22 per 10,000, an increase over 1880 of 294½ per cent. Rate for apoplexy in 1880 was 1.73 per 10,000; in 1890, 2.40 per 10,000; in 1900, 3.53 per 10,000, an increase over 1880 of 104 per cent.

In 1900 a campaign was begun to secure more careful compilation of vital statistics and only such states and cities were admitted as had kept records with unusual care. In 1910 the registration area included 22 states (counting District of Columbia) and about 456 cities, a total of 58⅓ per cent. of population of United States. States included were California, Colorado, Connecticut, District of Columbia, Indiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Montana, New Hampshire, New York, New Jersey, North Carolina, Ohio, Pennsylvania, Rhode Island, Utah, Vermont, Washington, Wisconsin. These states in 1880 comprised 54 per cent. of U. S. population; and in 1910 they were 53.7 per cent. This fact, together with the wide distribution, will make a record derived from them a fair indication of the general tendency in entire country. Dealing with these states only, we find that rate for combined mortality from heart disease, Bright's disease, and apoplexy in 1880 was 10.63 per 10,000; in 1890, 15.32; in 1900, 20.9, and in 1910 it was 31.5 per 10,000, an increase of 196 per cent. over 1880.

Mr. Cunningham showed by comparative statistics that the twenty-two largest cities of the country showed an increase in mortality of degenerative diseases of about the same ratio as the states enumerated. That the mortality from these diseases is not universal is shown by the fact that in England and Wales during past thirty years they have decreased 7.2 per cent. Mr. Cunningham enumerated causes of the condition as it exists in this country and from a layman's standpoint covered the question very well. He pointed out evils of intemperance not alone of drink, as he expressed it, but in desire, work, achievement, thought, action, diet, and in amusement; pressure, worry, eagerness to achieve success quickly; continuous and indiscreet use of one set of brain cells, then defective circulation and inevitable heart and kidney complications; "the quick lunch with consequent digestive disturbances that lead eventually into sphere of degenerative troubles; overstrain with resultant depression, remedied by feverish amusements that cause loss of sleep, the natural restorative, then stimulants, more overstrain more depression, etc., to end of the chapter."

As for the remedy, publicity of existing conditions is suggested, an awakening of the profession first to need of warning the public concerning habits of intemperance and then educating people to necessity of frequent medical examination to determine any beginning diseased condition and prompt warning of ultimate result. Harry W. Albertson, Reporter.

MONTGOMERY—February.

The regular meeting of the Montgomery County Medical Society was held at Charity Hospital, Norristown, February 5. Drs. Swalm and Potter of the State Hospital showed the different urinary tests. Dr. E. G. Kriebel read a paper on "Colds." He divided coughs into those due to respiratory diseases; and those due to nonrespiratory diseases, such as spasmodic and reflex coughs. He advises against the many cough syrups and expectorants but advises the hygienic treatment plus glycerophosphates, cod-liver oil and occasionally small doses of morphin to quiet cough when there is no expectoration.

Edgar S. Buyers, Reporter.

PHILADELPHIA—January.

The meeting of the Philadelphia County Medical Society was held January 8, at 8:30 p.m., with the president, Dr. L. Jay Hammond, in the Chair. In a symposium on the gastrointestinal tract, Dr. Addinell Hewson read a paper on "Anatomy of the Stomach and Intestines."

"The Gastrointestinal Tract" was presented by Dr. Vincent Lyon. The subject was approached almost entirely from the standpoint of laboratory diagnosis with a brief résumé of the physiology and essential anatomy of the tract, disregarding the symptomatology and pathology in all save a few places. The following subdivisions were fully considered: The physiology of digestion, movements of the stomach, pancreatic secretions, diseases of the mouth as affecting digestion, breath, lips and mucous membranes, the tongue, disturbances of sensation, diseases of the salivary glands, disease of esophagus. A list of analytical gastric tests was given for a complete chemical analysis. Further subdivisions discussed are chemical examination of stomach contents, starch digestion in the stomach, determination of blood in gastric contents. In the consideration of gastric diseases the following classification was made: (1) The gastric neuroses, (2) the secretory derangements, (3) the motor derangements, (4) the commoner organic diseases.

The condition of the gastrointestinal tract in diseases of the gall bladder and biliary passages was another subdivision of the question discussed. The diseases of the pancreas were studied and tests given to determine pancreatic efficiency. The paper closed with a discussion of appendiceal disease as related to gastric disease.

Dr. I. N. Broomell: A large percentage of the diseased conditions in the mouth which are of local origin can be attributed either directly or indirectly to dental caries. Statistics show that caries is about as prevalent to-day as at any previously recorded time. While absolutely clean teeth will not decay, it is equally a fact that all teeth that are not clean do not decay. There appear to be conditions of predisposition and of immunity which are operative in the matter of decay so that caries is about as prevalent in teeth particularly cared for as in those neglected. Notwithstanding this an aseptic mouth should be insisted upon by the dental practitioner. I would strongly urge that in searching for the cause of an obscure pathologic condition the oral cavity be examined. In my opinion the only reliable mouth wash is the human saliva.

Dr. Frances C. VanGasken, on "The Small Intestine": The thing that stands out most prominently is the laboratory examination of the stools. This should be preceded by a test meal of either carmine or charcoal. In examining for the action of the pancreatic juice and of the bile the indican test is used. Next in value is the test for blood in the stools. After making the many tests the symptoms must be considered in making the diagnosis.

Dr. Joseph Sailer, on "The Biliary Region Medically Considered": The most significant sign of biliary disease is jaundice. A differential diagnosis must be made from lesions of the pleura, of the intercostal nerves and from endocarditis. Failure to demonstrate a lesion either by medical examination, clinical examination, by operative procedure or by autopsy is hardly sufficient reason for considering that a lesion in the liver does not exist.

Dr. George G. Ross, on "The Biliary Region, Surgical Features": Practically all the diseases of the biliary apparatus, excepting malignant disease, have their origin in infection, which arises most frequently in the intestinal canal. The most common route by which the organisms reach the gall bladder and ducts is by way of the papulla, a retroinfection. They can also enter the gall bladder by the blood current, the lymphatic stream and by continuity of tissue. I believe that chronic dyspepsia has for its cause some organic lesion. Symptoms due to disturbed function of the stomach and intestines are frequently associated with the chronic type of gall bladder and pancreatic disease and that is especially true of gallstones. I am heartily in accord with the modern teaching that gallstones do not remain latent in a gall bladder. The chronic symptoms of the stomach and bowels arising from disease in the biliary apparatus are frequently due not so much to the gall bladder and duct disease as they are to the associated or resulting adhesions about these organs by means of which they are abnormally attached to these geographically associated organs. The higher in the gastrointestinal tract these adhesions occur, the more marked will be the symptoms.

The treatment, surgically speaking, for the troubles of the biliary apparatus is operation. With the exception of the very acute variety of cholecystitis, operation should be performed much earlier than we have been in the habit of doing. Gallstones can not be dissolved by waiting, and are only exceptionally passed, and then at the expense of great suffering. Adhesions become more numerous with each succeeding attack and only grow in density with the passage of time. The ordinary history we get in this type of cases covers a period of rarely less than ten years, and often a period as long as thirty-five or forty years has supervened between the onset of symptoms and operation. If the patients are financially able and sufficiently urged by their timid physicians or friends, they make the pilgrimage to the gallstone dissolving fountains of the great Bohemian mecca, only to return belching up the gas of a protesting gall bladder which still remains for some enterprising surgeon to place in his collection as silent witness of the futility and danger of delay.

Dr. B. F. Stahl, on "The Large Intestine": Diarrhea and constipation give us a basis for the consideration of all the diseases of the large bowel. Diarrhea is a symptom of comparatively few diseases of the large intestine, while constipation is a factor in practically all the remaining diseases of the large bowel. Diarrhea presents definite and extensive pathological lesions. Constipation offers so few that even in a disease so well defined as mucous colitis the lesions are so varied as to make impossible a strict grouping of these cases. The most important aid to regularity of the bowels is the habit of having a fixed hour for defecation. There is danger of inducing atony of the bowels by an abruptly begun regimen composed of great bulk of water and vegetables. Exceptional results are often obtained by the use of salicylate of eserin in 1-40 grain doses, particularly in the distressing cases of excessive tympany. Intestinal obstruction of varying degrees by reason of its weight may induce dilatation of every degree up to the size of the specimen shown in a case reported by Dr. Formad. The circumference of the largest part of the colon measured thirty inches and the contents weighed forty-seven pounds. The frequency with which cancer of the colon is overlooked is evidenced by Cabot's study of 3000 autopsies. In forty-three cases twenty-five per cent. were unrecognized. Intestinal diverticulitis may result from constipation and atony of the wall of the bowel. It sometimes occurs in the cecum and may complicate the diagnosis of appendicitis. The most frequent site, however, is the sigmoid. The symptoms often suggest appendicitis. That the disease is more prevalent than the reported cases would indicate is evidenced by the recent recognition of the cases on record. A more painstaking method of examining all conditions, even remotely indicating disease of the abdominal viscera, should be exercised.

Dr. Thomas R. Neilson, on "The Appendicular Region": The location of the appendix influences the morbidity. The mesoappendix varies in length, breadth and manner of attachment. If short it is prone to produce kinks interfering with circulation and causes grave consequences when acute inflammation occurs, and it no doubt often is a large factor in the development of some cases of chronic appendicitis. Disease of the appendix presents gastric symptomatology (*a*) simulating ulcer, (*b*) of chronic gastritis, (*c*) of nervous type.

The lesion of the appendix in such cases is chronic. Its establishment while not easy can, in the majority of cases, be made by the location of persistent and recurrent discomfort or tenderness, by the noting of evidences of toxemia and by blood examination. The laboratory examination of the blood gives a definite index of the degree of infection and of resistance. Of even more importance is the differential count, more especially that of the polymorphonuclear. In all cases the laboratory blood findings must be looked upon as only illuminating the clinical symptoms. Experience in the observation of these is a most important factor in determining the course to pursue and in reading correctly the values of the laboratory findings.

Dr. J. Coles Brick discussed "The Laboratory Examination of Diseases Properly Referable to the Rectum *per se*."

The Report of the Committee on Criminal Malpractice of the Philadelphia County Medical Society, read at the annual meeting, January 15, 1913, is as follows:—

Fellow Members: The decision of the question as to what the practicing physician is to do when confronted with the treatment of a patient upon whom a criminal operation has been performed is of paramount importance to his future reputation in the community in which he practices his profession. As Dr. A. C. Morgan so aptly says, "The physician treating a case of diphtheria knows exactly what he must do in such an instance if he desires to obey the law, but every one who has had experience here in Philadelphia with the Board of Health, the Coroner's Office, the District Attorney's Office, and the police department knows that he does not always receive the same reply as to what is the duty in cases of criminal abortion when the question is put to the various officials at the head of these responsible positions, as to what he should do when called in to treat a case of criminal malpractice."

With the object of determining a uniform procedure as to what to do when treating an abortion case the North Branch (which society, by-the-bye, some years ago was responsible for the organization of this committee), on December 17 held a joint meeting with a representative of the District Attorney's Office, Mr. John M. Patterson, one from the Coroner's Office, Dr. William S. Wadsworth, and your Committee on Criminal Malpractice. After the papers had been read and an interesting discussion had taken place, these representatives decided to meet and prepare suggestions for the general practitioner as to what to do in such instances. Until this report is ready and in the hands of physicians, your committee suggests that, in every instance where a criminal operation is suspected, the physician should see the patient with a reputable consultant, and that one or other of the legal offices, along with one or other of the members of the Committee on Malpractice, should be informed of the fact that such a patient is under the charge of these gentlemen, not necessarily that the name of the patient should be divulged, but that the report should be so earmarked that it can be identified in the future. Either Dr. Samuel M. Wilson or Dr. Richard C. Norris is prepared to act in such instances as a consultant, and that, too, without charge in a case where the patient is too poor to pay for such services. The committee feels that the reputation of the physician and the professional secrecy should be maintained in every possible manner, but that the criminal malpractitioner should receive that punishment so richly deserved for illegally interfering with the course of nature.

It is hoped that as soon as the by-laws of the Philadelphia County Medical Society are so amended as to expel criminal abortionists from the society that certain data now in the possession of the committee, pertaining to certain members of the society, may be submitted to the Board of Censors for consideration with the object of formulating their recommendations to the society as to what action should be taken thereon.

In a number of instances the attention of the Committee on Criminal Malpractice has been called to the fact that reputable members of the society have referred patients who have come to them to have a criminal operation performed to others for the destruction of the fetus and that in these instances the abortion has been performed. Your committee would call attention to the fact that under the law any one referring a woman, pregnant or supposed to be pregnant, to another physician with the object of having a criminal operation performed upon her person, is equally guilty in law to the one who actually does the operation. Here, too, as soon as the society is in a position to suspend or expel a member for unprofessional conduct, the committee will consider it to be its duty to lay the facts pertaining to any such instances which in the future may be brought to their attention before the Board of Censors for them to take action upon.

The sending of one noted abortionist to jail by the federal authorities has done much to clarify the atmosphere here in Philadelphia, and the post-office authorities, especially Mr. Charles C. Cortelyou, in charge of this district, should be congratulated upon the vigorous and fearless manner in which this case and a number of others throughout the state of Pennsylvania have been handled. The crusade against the criminal abortionists now going on in Philadelphia has caused a number of them to withdraw their advertisements from the daily press and to perform their criminal operations in Camden, Atlantic City and other nearby towns.

Your committee, in conclusion, desires to thank the members of the society for their uniform support and help in the crusade, for it can hardly be said that the rank and file of the profession, who are members of this society, honestly and fearlessly subscribe to the Hippocratic oath in regard to the nonperformance of criminal operations.

Respectfully submitted,
Richard C. Norris.
Samuel M. Wilson.
Henry W. Cattell, Committee.

YORK—February.

The York County Medical Society met in the Colonial Hotel, February 6, at 1 p.m. Dr. Fackler called the meeting to order, with twenty-five members present.

Dr. Gable read a paper on the "Treatment of Empyema" and, in the absence of the regular speaker, Dr. Holtzapple and J. N. Dunnick spoke on "The Diagnosis of Empyema." Empyema is rarely a primary disease, and is usually a pneumococcic infection. Its diagnosis usually presents no serious difficulty, as it is to be looked for in all those instances where a gradual rise of temperature follows a few days after a recovery (?) from pneumonia; especially is this true in pneumonia occurring in children. One or more of the well-known physical signs will be present, and aspiration will make more certain the diagnosis, if this be required. When present, there is only one treatment for empyema, and that is surgical. The pus should be liberated at once, and very free drainage established. Although free incision may be serviceable in some cases, it is more advisable to resect one rib or more, in order that very thorough drainage may be assured. Medical treatment should be considered only as an adjuvant, and must necessarily be symptomatic. In chronic cases, resort may be had in one of the more capital operations, viz., Estlander's, Schede's or Fowler's.

Dr. Gilbert exhibited a mercurial blood pressure apparatus, constructed at a cost of $3.00, which, he stated, could be made for about half that amount. He found it very accurate in practice, and as convenient an apparatus to carry as those which usually sold for $20.00 or more.

Julius H. Comroe, Reporter.

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ADDRESS.

A CONSIDERATION OF SOME OF THE PHASES OF THE INSANITY PROBLEM.

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(Presidential address before the Philadelphia Neurological Society, January 24, 1913.)

In selecting a subject for my address to you to-night, I found myself lacking in any laboratory work which was complete enough or sufficiently important to lay before you. I have therefore hit upon a subject which has always deeply interested me, and which has, more to-day than ever, seemed to me to be of the deepest importance, not to say interest, not only to the medical fraternity but equally to the general community. Should I apologize for presenting before a neurological society a paper dealing purely with disease of the mind? I think not, for to me it seems essential that the neurologist should consider, within his specialty, diseases of the mind as well as the functional and organic diseases of the nervous system. I do not see how they can be separated. Moreover, the trained neurologist is best fitted to approach the study of insanity by very reason of his familiarity with laboratory work in which there lies at least some of the hope of the solving of problems arising in relation to the study of insanity. By a trained neurologist I mean one who is a laboratory worker and at the same time a clinician. But so far the laboratory has taken a minor part in the work.

It is to be regretted that the young man in this country who is inclined to scientific research in the laboratory has so little encouragement. Purely scientific results are listened to on the whole with little interest in societies and it is with difficulty that reports of certain types of neuropathological work find a proper medium for publication and when published are too frequently read indifferently.

In the main the neuropathology of organic nervous diseases has been fairly well worked out, and while the training which comes to one occupied in such work is broadening and has a beneficent effect upon the worker, his efforts on the whole rarely produce results especially directed towards the discovery of the causes of, or a cure for, organic diseases of the nervous system. I speak more of the laboratory conditions as they exist generally in this country where experimental work has not yet been extensively done.

It seems to me that the younger men inclined to do laboratory work should be not only encouraged but urged to study the neuropathology of insanity to a greater extent than is being done at the present time. And the work should not stop here, but should be in association with clinical observations as well as biochemical, physiologicochemical and psychological studies. The neurologist needed in this work must be not only a clinical neurologist but an internist. He must be capable of interpreting the findings of the laboratory of physiological chemistry and the laboratory of psychology, and furthermore he should not only be familiar with the sociologic conditions but be able to recognize the economic, legislative and pedagogic aspects of the problem. Only the man who is so fitted can bring with him to the study of diseases of the mind and nervous system an equipment which is to-day a necessity, nay, an imperative demand.

What greater problem faces the neurologist at present than the prevention and cure of insanity and what field of study is broader but, alas, so far, less well worked out?

If insanity is not increasing it is certainly not decreasing to any encouraging extent.

It is a question whether insanity is not increasing in this country. It is extremely difficult to get accurate statistics to show exactly whether this is true or not. The Census Bureau[1] in 1910 canvassed 372 institutions in the United States, and it was found that the number of insane, January 1, 1910, was 187,454. The number of insane cared for in institutions therefore in continental United States in 1910 was greater than the population of the city of Columbus Ohio. There were 37,303 more insane in the United States than in January 1, 1904. There was also an increase of 10,981 in the annual number of commitments. The report of the Census Bureau showed that while the population in the United States increased about eleven per cent. between 1904 and 1910, the population in insane asylums increased about twenty-five per cent. It was the belief of Dr. J. A. Hill, chief statistician, that this increase in the number of commitments was possibly not due to any considerable degree to an increase of insanity but rather to the fact that more insane were cared for in institutions.

The causes of this increase will in part also be found to be due to the earlier recognition of insanity and to the fact that there is less general objection on the part of the public to sending their insane to institutions.

In this connection you will be interested to learn that the study of the tables given by the Board of the Commission of Lunacy in New Hampshire in 1910 shows that the number of insane in that state is increasing in a considerably larger ratio than the population. It is further interesting to note that in Mississippi, twenty years ago, there were less than 200 negroes confined in asylums, while in 1911 there were 700 negroes in one institution alone at the same time that many were confined in jails.

Whether insanity is actually on the increase generally or not, the fact remains that there is an increase in the number of the insane confined in institutions, and it is really this fact with which we have to deal, in large part, as to our responsibility towards the problem of insanity as far as the duties of the state are concerned.

The study of insanity is almost an untrodden field in this country. I say this in spite of the fact that here and there throughout the United States active steps have been taken in the right direction to properly deal with this problem, and to this reference will later be made in some detail. The study of insanity is certainly in its infancy. Wernicke said in 1900 that psychiatry was practically 100 years behind the rest of medicine.

If progress is to be made along the lines of psychiatry, many radical changes must be made in the manner in which the state at present cares for the insane. It is a sad commentary upon our social conditions to be obliged to admit that acute cases of violent insanity which fall to the state's care are often first received in prison cells. There is still a statutory law in Kentucky which does not recognize the insane as sick persons and there are in the United States at least fourteen states who either temporarily or for a long time confine insane patients in jails and almshouses. Furthermore, there is scarcely a state in the Union which has adequate facilities for housing its insane, and there is not one state which is doing all that can be done to help this unfortunate class of patients. It should be noted here that Wisconsin is perhaps the only state which has more than enough hospital accommodations for its insane.

On the whole the state insane hospitals throughout the country are overcrowded, and it goes without saying that this fact alone interferes with the proper care of the patients there confined. Moreover, the number of medical attendants in these institutions is entirely too small. The average medical attendants to patients in state institutions in the United States is about 1 to 200, but there are at least seven institutions in which there is only one medical attendant to 300 to 400 patients. Outside of the psychopathic institutions there is no state institution in the United States where the proportion of medical attendants to patients is less than 1 to 120.

When it is taken into consideration that the medical attendants have a large part of their time consumed in administrative work, one can readily understand how impossible it is that under such conditions any satisfactory progress could be hoped for along the lines of investigations as to the cause or the treatment of mental disease.

Moreover, few of the state hospitals in the United States have proper laboratory facilities and perhaps none outside of the psychopathic institutions which have recently sprung into existence has complete laboratory equipment for the up-to-date study of mental disease. Where laboratories do exist one of the greatest difficulties is to get the proper sort of men to work in them. As a matter of fact, without the laboratory and the proper laboratory man, little advance may be expected. The material is abundant but the facilities for study insufficient.

The inadequacy of the nursing staff is also an obstructing factor. While in some institutions (Maine, Government Asylum for the Insane, New Hampshire and Massachusetts) the attendants are in a ratio of one to eleven, to one to forty, a fair average being about one to fifteen. In few of the institutions moreover is much attention given to the training of the attendants.

The treatment of the insane in state institutions has always been inadequate, and the care of the patients has been largely custodial. Some effort in recent years, however, has been made to employ modern therapeutic measures and the introduction of hydrotherapeutic apparatus is probably the most important step in this direction.

In twenty-nine of the states out of forty in which this question was investigated, one or more hospitals for the insane had installed modern hydrotherapeutic apparatus.

Too much emphasis can not be placed upon the fact that the prognosis of insanity is not as bad as hospital records would indicate and is very often affected in institutions by a lack of therapeutic facilities.

Occupation of the insane in asylums, which is looked upon as of great value in the treatment of mental disease, consists mainly of perfunctory efforts at employment in the workshops of the institutions and working on the farm. In a few of the institutions teachers are employed to instruct the patients in basket weaving, needlework and other manual employment, but in nineteen states of thirty-seven investigated no provision whatever was made for the employment of the patients. As for the care of the criminal insane in this country it may be unhesitatingly asserted that the conditions are far from satisfactory. In spite of the widespread recognition of the needs of separate hospitals for this class of patients, in twenty-eight states the criminal insane are confined in the state hospitals for the insane. In Maine there is a separate building connected with the Maine Insane Hospital for this class of patients and in Vermont and Minnesota they are placed in special wards in insane hospitals. In some of the states the criminal insane are still confined in prisons.

At present there are seven states, Pennsylvania, New York, Indiana, Illinois, Iowa, Massachusetts and Michigan, that have criminal insane asylums, while in Oregon and Wisconsin separate hospitals for this class are in the course of construction.

State care of the insane is the popular method of providing for the insane in this country. Only ten out of thirty-eight of the states have county asylums; viz., Minnesota, Tennessee, Colorado, Indiana (state care declared), Iowa, Maryland, Michigan in one county, Mississippi, New Jersey and Pennsylvania.

Much may be said in favor of both systems, but on the whole the state care would seem to favor a systematic and scientific handling of the situation.

Perhaps the greatest step in the advancement of the care of the insane is in the introduction of the psychopathic hospital. This is a phase of my subject the importance of which I especially wish to emphasize and in which I earnestly hope to awaken an enthusiastic interest among the members of this society. I should like to see a movement set on foot to-night the object of which would be to establish in this state a psychopathic hospital, with modern laboratory equipment, with every facility for the management, care and treatment of early cases of insanity. If we hope to make much progress in the great work of reducing the number of insane in our midst we must begin with the early manifestations of mental disease.

I would favor, nay, I would urge, the appointment of a committee to confer with the State Board of Insanity to agitate this plan and to present the matter before the Legislature at an early date. The State of Pennsylvania can not afford to be lagging behind other states and I know of no more fitting source of such a movement than in the Philadelphia Neurological Society.

The most valuable of this type of hospital are those in Massachusetts opened in June, 1912, in Baltimore and in New York, the last two of which, however, not being state institutions. Allied institutions are, however, under state management in Illinois, Michigan, Rhode Island, and California.

In Massachusetts the psychopathic hospital, opened in April, 1912, is intended for acute, incipient and curable cases. The laboratories are well equipped and facilities for instruction are afforded to students, physicians and advanced workers. There is a free out-patient service and a social service. In this state there are also special well-equipped laboratories in six of thestate hospitals.

The policy of the State Board of Insanity in Massachusetts is to provide in its psychopathic hospital, for the care of acute, incipient and curable insanity as far as the first care, examination and observation are concerned. Also to provide well-equipped laboratories with ample facilities for study, to provide opportunities for instruction to students and to be a center for the education and training of physicians, nurses, investigators and special workers. It also provides for social workers and for an out-patient department.

In this connection it will be interesting to state that the further policy of the board is to provide for a mental sanatorium in which incipient mental patients are received for preventive and curative treatment without commitment. It further provides for the colony care which looks after patients who are mentally unfit to return to life in the community but who are able to receive industrial training and occupation under agreeable conditions. Under this system there should be separate homesteads accommodating twenty-five to one hundred patients each, to be under the management of a good farmer, his wife and assistants. The board also provides for an infirmary for the residual class of patients. The state pathologist supervises the research and clinical work at the various state institutions.

The colony idea has developed extensively while the infirmary has been developed only in existing centers. The sanatorium, as far as I am able to learn, has not been completed. The twelfth annual report of the State Board of Insanity of the Commonwealth of Massachusetts for the year ending November 12, 1910, contains very interesting reading and is very suggestive.

In Illinois there is a psychopathic institute connected with the Kankakee State Hospital. It is used as a center of teaching in psychiatry as well as for research work. Physicians are sent there from the state hospitals, where they act as clinical assistants for a period of three to four months. The laboratory work however, Dr. Singer stated in 1910, had suffered on account of the inadequate appropriations made by the legislature.

Michigan established a state psychopathic hospital at Ann Arbor in 1907. It is the first institution of the kind in the country to care for incipient insanity. This hospital lacks special rooms for treatment and exercises and is in need of proper laboratory equipment.

Rhode Island has a reception hospital for acute cases with a clinical laboratory and special rooms for therapeutics and surgery. In the Stockton State Hospital of California there is a new treatment and receiving building with modern equipment. I am under the impression however that the laboratory facilities are insufficient.

In Wisconsin a recommendation was made to the State Board of Control to establish a laboratory at the University of Wisconsin and to provide for a psychopathic hospital but so far neither has been accomplished.

In Oregon there is in the course of construction a new receiving hospital which will be equipped for carrying out the most modern and approved methods of treatment. No special laboratory provision is made however.

The subject of a psychopathic hospital in Oklahoma has been agitated and a bill introduced to provide for one.

A central laboratory has been urged in Ohio and a laboratory has been planned in Maine.

From this it will be seen that there is an earnest effort in several localities to make provisions for the care of insane in the incipient stages of the disease, and to study disease of the mind in a scientific manner. With this plan fully developed the admission to the general hospitals for the insane will thus be lessened materially, as many cures could be effected in this way.

It will be well for a moment to contrast the work done in this country with that done by the Germans. In Giesen[2] there is a clinic of seventy beds for the treatment of incipient cases. In the Munich clinic there are 120 beds and three to four thousand admissions yearly. There is a staff of fifteen medical men and provisions for a nurse to each five patients. There are eighteen tubs for prolonged baths and five movable baths. The clinic is always open, so that immediate treatment can be obtained under the direction of an experienced alienist. There are ample facilities for scientific investigation along chemical lines, in experimental psychology, of conditions of the blood and cerebrospinal fluid and in anatomy. Moreover, every University in Germany has a psychiatric clinic attached.

Thus far I have called your attention to some interesting features of the state care of the insane, referred to some needs generally, laid particular stress on the special demand for state psychopathic hospitals throughout the country and endeavored to awaken an interest among the members of this society in the enormous importance of this subject. Let me call your attention now to certain other phases of the subject of the modern handling of the insanity problem, and review briefly what is being done in a scientific way to further our knowledge of disease of the mind.

Metabolic studies have engaged the attention of chemists for a number of years, but while an enormous amount of work has been done, not a great deal has been accomplished.

In 1897 Schaeffer[3] reviewed the literature dealing with metabolic changes in the insane but found that none of the studies dealt with metabolism as a whole but considered isolated features.

Barnes[4] in 1912 reviewed the whole subject and concluded that the central nervous system in health or disease exerted no direct influence upon the metabolism of phosphorus. Very little results, he found, were obtained from the study of the urine.

The blood changes too, studied thus far, gave little information. Berkley believed that in dementia præcox there was an increase in the mononuclear elements and a compensatory decrease of the polymorphonuclear elements. Fibrin is said to be increased in paresis. Studies made of the cerebrospinal fluid in regard to lecithin, cholin, cholesterin, phosphoric acid and total nitrogen have not proved of much value.

Barnes believed that lipoidal substances were assuming more importance but admitted that too little was known of the chemical nature of the members of this group of substances to estimate their importance in the realms of the nervous system.

There has been found by investigators some disturbance of lecithin metabolism in paresis. Barnes[5] found in his studies of metabolism in general paresis that there was a tendency also towards a low total nitrogen, that the neutral sulphur in most instances was high and the ethereal sulphur low.

Folin's[6] exhaustive studies of metabolism in sixty-seven cases of insanity including manic-depressive insanity, melancholia, alcoholico-senile dementia, dementia præcox and general paralysis forced him to the conclusion that the results show very little that is tangible concerning mental disorders, except that in general paralysis some metabolic disorders may be associated at one stage or another. He found it impossible to associate any specific metabolic changes with any particular form of insanity. As to the variation in the neutral sulphur, as shown by the work of Koch, Pighini and others, Barnes concluded that its full meaning was yet to be discovered.

R. T. MacKenzie Wallis,[7] having studied metabolic change in eighty-six cases, found the excretion of creatinin in the insane generally subnormal and the creatinin coefficient correspondingly low. The indigo in the urine he believed was derived from sources outside of intestinal putrefaction. The neutral sulphur excretion was low and indicates a diminished cellular activity.

Gilikin[8] found a lowering of the lecithin in the bone marrow in three cases of dementia paralytica and complete absence in six cases.

Pighini[9] found in his studies of cholesterin that it was present only in cases of progressive paralysis, epilepsy and dementia præcox, having failed to find it in other forms of insanity.

Shultz and Knauer,[10] as a result of their studies of the carbohydrate metabolism in insanity, concluded that the glycosuria was the result of the psychosis and not the cause.

In six cases in which active degeneration of the nervous system had taken place Coriot[11] found cholin in the cerebrospinal fluid. This substance is one of the katabolic derivatives of lecithin which forms the principal substance of the myelin sheath. The underlying factors which cause lecithin to split up into glycerophosphoric acid, stearic acid, and cholin afford, he suggests, a fruitful study.

Koch's[12] studies in five cases of dementia præcox showed a variation in the neutral sulphur fraction; in other words, a difference in chemical composition of a nature not seen in health or in other mental diseases, and he concluded that there was a metabolic insufficiency in dementia præcox, the exact interpretation of which is at present impossible. The foundation for the deficiency he believes lies in a disturbance occurring in early or embryonic development, by which the brain lacks full metabolic and recuperative power and is therefore handicapped when meeting the strain of adolescent life, deteriorating then and giving rise to the chemical changes described.

So far then, after rehearsing the evidence, who shall say that metabolic studies have helped greatly? At the same time such studies should go on, but in connection with clinical, pathological and psychological investigations.

What have histological studies done towards solving the mysteries of mental disease?

Outside of general paralysis and the changes in the senile brain described by Redlich,[13] in 1889, and later by Alzheimer,[14] Mijake,[15] Fischer,[16] and Acúcarro[17] especially, histologic changes can be said to show characteristic appearances in syphilitic mental psychoses and the idiots' brains only.

No specific histological change has yet been found for all forms of clinical insanity. As Ladame[18] has aptly said, no histological lesion described hitherto is capable of explaining psychic symptoms such as delirious ideas and hallucinations.

Brodmann's "cytoarchitektonik" may give valuable data in the studies of the layers of cells in the cortex, a line of work which has also been followed by Cajal and Campbell.

Psychology is assuming increasing importance in the study of insanity. It is beginning to be more and more recognized that the studies of the normal mental processes should be applied to investigations of morbid mental states, since Kraepelin first called attention to the importance of the study of the principles of psychology as applied to insanity.

Farrar[20] aptly said that the alive brain must be studied, for the dead brain can not show evidences of morbid thought which existed during life.

Meyer[21] in this country has especially laid stress upon the importance of the psychogenic causes of insanity. The psychogenic disorders, he believes, are dependent on conditions which he states can be described in terms of psychobiology.

While psychologists are employed in Germany extensively in the study of insanity, in this country their importance has been neglected. Except in Vermont and in the Government Hospital for the insane, no state in the Union has, in its institutions for the insane, a psychologist attached. Virginia employs one at times and Illinois has one connected with its institutions for the feeble-minded.

The prevention of insanity seems to me to offer more, in our present knowledge of the subject, towards the relief of the situation than any other feature of his problem. Is there any work of greater importance to the neurologist than this? Are not neurologists generally more interested along lines of work and study relating to organic nervous disease, which offer so little immediate results from an humanitarian point of view?

The prevention of insanity is to be achieved in several ways. The people must be educated to recognize the importance of prevention. The methods by which this may be accompished must be exploited. The vast saving to the state which accrues from measures to prevent insanity must be emphasized. The enormous advantages resulting from the treatment of incipient cases from an economic as well as an humanitarian standpoint must be recognized.

The cost of maintaining the insane in the United States in state institutions is about $50,000,000 yearly. Much of this money could be saved by an active crusade which has for its object the prevention of insanity.

The etiological significance of alcohol and syphilis should be spread generally among the people. Apropos of this you will be interested to hear that Felix Rose of Paris, in a personal letter, made the statement that ninety per cent. of the cases of insanity in French asylums was due to alcohol.

The study of educational measures in regard to children; the early recognition of danger symptoms in growing children under educational pressure: the exploiting of the evils of procreation among the feeble-minded; the early recognition of the neuropathic character; avoidance of head injuries; the value of studies in eugenics and of labor problems connected with children and women; the importance of all these must be brought before the public eye in a vivid and impressive manner.

The public must be reëducated not only as to the importance of these but also to the necessity of having psychiatric hospitals and psychiatric wards in general hospitals where those afflicted with mental disorders may be readily received for treatment in the incipient stages of the disease.

Coöperation in this work with the general practitioner is essential. Furthermore, public lectures should be given and properly censored publications in newspapers should be encouraged.

The state should be urged to give greater support to the scientific aspect of the problem along the lines of prophylaxis as well as treatment. Movements should be inaugurated by every state, such as that made by the National Committee of Mental Hygiene, the Connecticut Society for Mental Hygiene, the Illinois Society for Hygiene and in New York, the State Charities Aid Association.

The chief objects of the National Committee for Mental Hygiene are: "To work for the protection of the mental health of the public; to help raise the standard of care for those threatened with mental disorder or actually ill; to promote the study of mental disorders in all their forms and relations and to disseminate knowledge concerning their causes, treatment and prevention; to obtain from every source, reliable data regarding conditions and methods of dealing with mental disorders; to enlist the aid of the federal government so far as may seem desirable; to coördinate existing agencies and help organize in each state in the Union an allied, but independent society for mental hygiene, similar to the existing Connecticut Society for Mental Hygiene."

The objects of the Connecticut Society for Mental Hygiene, for the establishing of which Beers is responsible, are: "To advise and assist those in danger of nervous or mental disorders, or actually ill; to cooperate with the hospitals in the work of caring for the insane, and to assist the many who are discharged as cured or improved, so that relapses due to avoidable and remediable causes may be prevented; to enlighten the public regarding all phases of mental disorder and the care of the insane, so that it may the sooner abandon the semi-superstitious, if not ignorant, belief that mental disease is a disgrace, and that commitment to a hospital for the insane stigmatizes the patient and his relatives: in other words, to impress upon the public that the insane are sick people, not criminals, and that they must be given the benefits of prompt and intelligent treatment if the many curable cases are not to be deprived of their rightful chance of recovery."

The importance of better and fuller instruction in our medical colleges of this country must be emphasized. In Germany, courses in psychiatry are compulsory but in this country generally little heed is given to the subject in the curriculum. Also instruction should be given in psychology as related to mental disease.

Mental hygiene should become an important feature of the work of departments of public health.

Social service in connection with problems of insanity holds an important place The care of patients after they are discharged from the hospital and sent home well, which is of such enormous importance, can be carried out through this agency.

A movement to provide after-care for the insane was instituted as early as 1841 by Dr. Falret in France. In this country the importance of this subject was suggested in 1894 by a committee of the American Neurological Association consisting of Drs. Stenton, Dana and Dercum. Associations of this character are in operation in Switzerland and England. In 1902 in Japan a Tokio Ladies' Aid Society for the insane was organized with similar functions. In 1905, Miss Louise L. Schuyler instituted the association in New York which provides after-care for the insane in that state. The object was to form a committee in connection with each state hospital to give aid, advice, assistance, etc., to those discharged from hospitals, and to surround them with an environment which shall give them the best chances. This plan not only helps the individual but anticipates a relapse and thus prevents such a person becoming a public charge again.

The social service also gives aid to patients who have recovered but who are without friends. Furthermore, through this agency home conditions can be studied, histories completed and data relating to heredity and causation collected. It further assists in the reëducation of the family and the community and helps to awaken the interest of the public.

In conclusion, I wish to call attention to another factor which enters into the economic aspect as well as that phase of the subject which pertains to the prevention of insanity in our midst, namely, the alien insane in this country. There has been in the last three years a yearly average of 330 insane, epileptics, feeble-minded, imbeciles and idiots who have been excluded from our ports.[22] In spite of efforts to prevent the entrance of this class of immigrants it has been found necessary to deport within three years of entry about twice this number each year for three years of aliens suffering from epilepsy or some mental affection.

There were in 1903 in this country 47,018 foreign-born white insane and during 1904 there were admitted 13,405 foreign-born white insane in hospitals of continental United States. It will thus be seen that a large proportion of the insane in state institutions is made up of foreign-born whites. The cause of this large number of foreign insane in our institutions needs careful study and investigation. It would be idle to speculate upon the meaning of these figures without an exhaustive study of the conditions surrounding this aspect of the situation but certainly it would appear that something might be done to lessen this number by proper legislation and a more careful study of the mental condition of immigrants.

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ORIGINAL ARTICLES.

THE BACTERIOLOGY OF CATARRH AND COMMON "COLDS."

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(Read in the General Meeting of the Medical Society of the State of Pennsylvania, Scranton Session, September 25, 1912.)

While many pathologic conditions of the human body take the name of their most prominent symptom, in the common "cold" we have one which is generally known by the name of its supposed principal cause. Yet, even on this basis, "cold" is hardly a proper name, for the simple reason that the effects of cold or any other external influence alone are powerless to produce the condition known by that name. This fact is exemplified by the experiences of persons who have remained for a considerable time in Arctic regions. The cold winds to which they are exposed may cause a hypersecretion of mucus from the membranes lining the respiratory tract and there may be a certain amount of discomfort locally, but there are never the accompanying prostration, joint pains, pains in the back, and general depression characterizing the "cold" with which we are familiar.

The Influence of Hypersecretion. In the first place we must consider the secretion of mucus in the respiratory tract as a normal occurrence representing one of the protective functions of the body. Even hypersecretion is protective in its nature, affording as it does a means of counteracting the effects of extremely cold air on the membranes and aiding in warming the air sufficiently before it reaches the lungs. Furthermore, we recognize the importance of the nasal, postnasal, and oral secretions as constituting an agent for the purification of the air inspired.

In explaining this purifying function let us compare the respiratory tract to a vessel, which is supplied with air by means of a long and tortuous tube. The air passing through this tube reaches the vessel in an absolutely pure condition so that material placed in the vessel will keep as well as though it were an air-tight container. The reason for this is that the dust particles of the air, bearing bacteria, molds, etc., essential for the decomposition of the material in the container, do not reach this point, but are precipitated on the sides of the tube. In the same manner are these impurities of the air deposited on the walls of the respiratory passage so that under normal conditions but little dust and few bacteria reach the lungs. Unlike the example of the tube container, however, the respiratory tract has other conditions with which to contend, first, the air inhaled is forcibly drawn through the passages; secondly, these passages are comparatively short. It is evident, therefore, that some other mechanism must be added in order to attract the impurities to the sides of the tube and to keep them from again entering the air current. This additional aid is represented by the mucous secretions, hairs of the nasal vestibule and cilia of the tracheal and bronchial epithelium. Most of the dust and other contaminating substances in the air inspired are interrupted in their passage by the hairs and, impinging upon the sides of the respiratory tube are caught in these secretions, eventually finding their way out of the anterior nares or through the mouth, as expectoration, or into the stomach. Particles that have reached the trachea and bronchi are brought upward gradually by the ciliary movement and by coughing.

Thus it is seen that the mucus-secreting apparatus has several definite purposes: (1) As a covering film to protect the membranes from the effects of extremely cold air, (2) to aid in warming the air sufficiently before it is passed on to the lungs, (3) to gather from the air bacteria and other impurities, and (4) to destroy bacteria.

Bacteriology. It is with the third and fourth of these functions that we are particularly concerned. What becomes of the myriads of bacteria, often pathogenic, which find their way from the air into the secretions of the nose, mouth and throat? It may be answered without hesitation that most of them are killed in a very short time. The secretions of the respiratory mucous membrane have considerable bactericidal power, due chiefly to the properties which have become present by virtue of an almost continuous reaction to the attacks of the inspired bacteria. Here we may again quote the experiences of Arctic explorers, who, after a protracted stay in regions where there are few bacteria, gradually lose these specific antibacterial properties so that on their return to more temperate latitudes and consequently to highly contaminated air they suffer severely from acute attacks of respiratory catarrh. In spite of the destructive properties mentioned, however, a few varieties of bacteria, probably by partial adaptation to environment, exist for a considerable time after their entrance into the respiratory passages. These are the species that under certain depressed conditions multiply rapidly, become parasitic, and cause the symptom complex known as "cold."

The species of bacteria that have been found in specimens from the nose and throat of persons suffering with acute catarrh are the influenza bacillus, the pneumococci, staphylococci, streptococci, diphtheroid bacilli, and Gram-negative cocci classed together as members of the *Micrococcus catarrhalis* group. Other forms occur in rare cases but apparently have no special significance. The *Micrococcus catarrhalis* group and those resembling morphologically the diphtheria bacillus are almost invariably present. It is a member of this diphtheroid group that was named by Cautley, *B. septus.* Bezançon and De Jong describe a micrococcus found during an epidemic of influenza to which they gave the name *M. paratetragenus.* This microorganism is also reported by Allen as having been frequently found by him. We have not, however, been able to isolate an organism that agrees with the description given.

How We Catch Cold. From the facts set forth it is not difficult to construct a mental picture of the process by which we "catch cold." In fact there are evidently two ways of "catching cold," the first when the bacteria in the nasal or pharyngeal mucus become sufficiently active to cause inflammation, etc., and, second, when more virulent bacteria are brought from outside. As we have already seen, the group of bacteria constituting the usual causative factors in "cold" are always present in the respiratory mucous membranes. Under ordinary circumstances, on account of the resistive or antibacterial properties of the mucus, they are merely able to exist here without exerting any noxious influence. The natural balance is so maintained that rapid multiplication is prevented. When, however, the bodily condition is altered so that this balance is disturbed, the bacteria immediately begin to multiply and soon attack the mucous membranes. The first result is a hypersecretion of mucus—which represents nature's method of destroying or washing out the bacteria. But the mucus secreted, being deficient in bactericidal properties, has little inhibiting effect, and indeed, only furnishes a culture medium which aids the bacterial growth. Thus we see first a thin watery discharge, which, as the bacteria multiply, becomes gradually more tenacious and finally assumes a yellow or yellowish green color and even in some cases becomes purulent. The bacterial toxins, having become sufficient in amount, entering the blood stream produce the characteristic attacks of backache, pain in the joints, and general malaise. In the recent studies in anaphylaxis the feeling of chilliness at the onset of the cold appears to be an allergic phenomenon.

Spontaneous Recovery. If we could observe a case of acute respiratory catarrh which goes on to spontaneous recovery we would doubtless find that this recovery results from a reaction on the part of the tissue to the attacks of the bacteria and their toxins on the mucous membranes and general organism. The body, aroused, rapidly manufactures antibodies and as these become sufficiently strong to overcome the bacteria and neutralize the toxins recovery ensues.

Predisposing Conditions. The conditions which help to destroy the protective balance and which therefore constitute predisposing factors are: (1) Diatheses in which the patient is in a generally weakened state, especially in regard to functions of the mucous membranes; this may be due to a mild chronic derangement of body functions, particularly those concerned in elimination; in such cases there is sometimes a venous stasis, about the mucous membrane. (2) Atmospheric or physical conditions, including exposure to cold, wet clothing, chilling draughts, etc., which cause vasomotor disturbances resulting in hypersecretion, and the local irritating effect of dust, cinders, noxious gases, etc. (3) Local pathologic conditions including chronic catarrh, obstructions of various kinds, and malformations, such as polyps, exostoses, adenoids and diseases of the accessory sinuses. In such cases a "cold" doubtless represents merely an acute exacerbation in the condition already present, possibly induced by one or more of the predisposing factors included in the first and second groups.

Contagious Colds. The second process by which an acute respiratory catarrh may be produced depends on none of these predisposing conditions but consists of the entrance of bacteria of exceptional virulence into the respiratory tract. It is clear to the bacteriologist that the balance of health in the respiratory passages is due to the resistive powers of the body and the nonvirulence of the usual "cold" bacteria. In the spontaneous cases just described the body is in a weakened state and the bacteria gain great headway. During their rapid growth they increase in virulence, so that if they find their way into the respiratory tract of a healthy person they will be able to overcome his natural resistance and cause a "cold." This person may have been able to take care of his own bacteria and the usual nonvirulent ones that find their way to the nasal passages, but he is totally unprepared to resist a highly virulent strain coming directly from a person suffering with a "cold." The "cold" patient has now become a source of contagion and the "cold" is passed along from one person to another, the virulent strain thus being maintained. The bacteria in the nose and throat of a person suffering from a "cold" contracted by contagion are not different in species from those occurring in what might be considered a spontaneous "cold." The point of origin in a contagious "cold" is, therefore, doubtless a person in whom the "normal" bacteria have become pathogenic, or, as in "bacteria carriers," a person harboring germs highly virulent for other people.

Mode of Contagion. In addition to the usual methods by which infectious agents are transferred from one person to another the fact that bacteria are borne in the air and thus gain entrance to the respiratory passages is frequently called to account for the rapid spread of epidemics of influenza. During the last few years, however, "air convection" has been discredited. That the infectious material may be carried through the air there is no doubt, but the distance it may travel is not great. Nor is it necessary that any great distance need be traversed. The close proximity of persons in assemblies, school rooms, street and railway cars and the use of the common drinking cup is quite sufficient to account for the most rapid extension of so infectious a condition. Thus an entire family may contract "cold" from one member. The infection frequently extends to the neighboring families and in fact spreads far more rapidly than other diseases usually considered to be highly contagious.

Treatment. The antibacterial property of the nasal and pharyngeal mucus may be considered as acquired. The omnipresence of the "cold" bacteria causes a constant activity of those body functions, the duty of which is to make antibodies for the destruction or to inhibit the growth of bacteria. These functions being temporarily overwhelmed or interfered with by external physical conditions or by the attacks of more virulent bacteria, the treatment which would at once suggest itself would be the supporting or stimulating of these functions by the use of bacterial vaccines.

One of the first conditions treated on these principles was that type of "cold" known as influenza. The results were encouraging, but the plan of isolating the most active agent and using the corresponding bacterial vaccine soon began to show its inadequacy. A person treated with pneumococcic vaccine remained as susceptible as ever to the influenza bacilli, *Micrococcus catarrhalis* group, etc., and for both prophylactic and therapeutic purposes a vaccine composed of all the "cold" organisms is now usually employed. Thus if the influenza bacillus is the chief offender, while stimulating the production of antibodies against this microörganism we are at the same time heightening the immunity against the other varieties and thus preventing a second attack by one of them. On the other hand, it is extremely difficult and in many cases impossible to tell which of the cold organisms may be the guilty one and there can be little doubt that in most cases of cold at least several varieties are concerned. The mixed bacterial vaccine in general use contains the following:—

Staphylococcus	100 million.
Streptococcus	12.5 million.
Pneumococcus	12.5 million.
M. catarrhalis (group)	12.5 million.
B. of Friedlander (group)	12.5 million.
Diphtheroid	25 million.
B. influenzæ	12.5 million.

For treatment about half this quantity may be given at intervals of two to five days, increasing or diminishing the amount according to indications. The prophylactic treatment usually consists of four injections, each one twice the size of the preceding. The formula given here is the initial dose.

It may be asked if in using such mixed bacterial vaccine there are not certain antagonisms between the antigenic properties of the bacteria which would interfere with the production of specific antibodies. Experience indicates that no such antagonism exists. From experiments made with the injection of typhoid and paratyphoid bacilli it appears that even with these closely related organisms the number of injections usually given for therapeutic or prophylactic purposes is not sufficient to cause the formation of any common or group agglutinins.

It has not as yet been definitely ascertained just where antibodies are formed. Many investigators have claimed that they are produced locally by the cells lying in the immediate region of the parasitic organisms or the killed bacteria injected for the purpose of treatment. According to some theories they are produced by certain internal organs. The question which will be asked, regardless of the nature of the apparatus producing antibodies, is, "Do we not run a grave risk of overburdening the antibody-producing mechanism by requiring it to make too many varieties of specific antibodies at the same time?" In the first place we may say that experiments with animals show that the antibodies produced by a single animal in response to an injection of a mixed bacterial vaccine are of nearly the same amount as those produced by animals injected with each bacterial species separately. It should in addition be borne in mind that when we speak of antibodies we use the name merely for convenience of discussing the various antibacterial properties the serum of an animal may contain. If antibodies are considered as substances and therefore as having volume, it would be apparent that serious criticism might be applied to the use of a large number of bacterial species at one time. The fact is, however, that the serum of an animal simultaneously immunized against numerous species of bacteria contains antibacterial properties specific for all of these bacteria without the least alteration in its volume.

Accessory Treatment. In the treatment of colds the entire problem presented by such a case must be considered. The function of elimination should be exalted by laxatives, diaphoretics, etc. After all possible accessories have been used it will be found that in a certain number of cases there is no apparent improvement. A careful examination of such patients will show in nearly every case the cause of failure. Bacterial vaccines are powerless to remove polyps and exostoses. One frequently meets persons who state that they have colds all the time. Many of these have systemic or local conditions which cause a constant or intermittent stimulation of the mucous glands resulting in so many of the symptoms of cold that the condition is constantly mistaken for that affection. In all these cases the general symptoms of cold must be lacking unless an infectious agent is really at work. It is therefore necessary for success to make a careful physical examination and use every possible accessory treatment in conjunction with bacterial vaccines. It is well known that persons who lead sedentary lives are unusually prone to catch cold. These persons frequently fail to respond to treatment by bacterial vaccines. The reason is not difficult to find. Venous stasis about the mucous membranes is the rule. As a result of this the antibacterial power of the blood, and therefore of the mucus secreted, becomes low and fresh blood does not come rapidly to the parts to renew it. Such persons may be benefited only by a fundamental change of habit.

I wish to caution against the indiscriminate use of sprays and douches. Used with the idea of removing crusts and accumulations of mucus they tend to wash away also the normal secretions and thus destroy one of the principal protective agents. Irritating fluids are especially to be condemned. Many of these douches and sprays are employed under the mistaken idea that they have a destructive effect on the bacteria. Even if it were possible to employ in the nasal passages an antiseptic solution of sufficient strength to have a bactericidal effect, laboratory experiments show that bacteria surrounded by the mucus are protected from the action of antiseptic solutions unless the mucus is dissolved by strong alkalies. If an irrigating fluid is necessary, physiological salt solution meets all the requirements.

Prophylaxis. Viewed in the light of their infectious nature the prophylaxis of colds becomes not only practical but highly desirable. According to the report of the investigation committee of the Boston Chamber of Commerce, the loss of money due to "colds," exclusive of that expended for medical treatment, amounts to twenty-one dollars per year for each person. The extreme rarity of a fatal termination of acute respiratory catarrh renders precautionary measures in the opinion of many an unnecessary trouble. Yet while "colds" are in themselves comparatively mild, as an aggravation of constitutional defects or of other diseases, they at once assume an important position. Furthermore, they are joint factors in predisposing temporarily to intercurrent affections which may readily prove fatal. The prophylaxis of cold should, therefore, be given the same consideration as that accorded the more severe infectious diseases. Persons having cold should use every precaution to prevent its spread to other members of the family and especially to the young children, in whom this condition may be of serious import. Persons, in whom predisposing physical conditions render them highly susceptible to cold so that throughout the winter they have one attack after another, should each fall be immunized against the catarrhal bacteria by means of the proper bacterial vaccines. Many persons who have availed themselves of this treatment have enjoyed their first winter without cold after they had become highly immune to the attacks of the organisms. The bacterial vaccine generally used for prophylaxis is the same as that employed in treatment.

Differential Bacteriological Diagnosis. The bacteria mentioned as being found in catarrhal conditions of the nose and throat are, of course, not the only microörganisms that may cause this local inflammation. Several of the well-known infectious diseases, such as diphtheria and scarlet fever, produce characteristic lesions in the respiratory tract. In epidemics of scarlet fever and infantile paralysis there are often seen among the members of the family, or others who have come in contact with the patient, outbreaks of sore throat which are possibly due to the virus of these diseases. The fact that these persons do not present typical symptoms of the disease may be due to an attenuation of the virus or lack of individual susceptibility. The diphtheria bacillus, in addition to the well-known lesion in the throat, is also a recognized cause of chronic rhinitis. During epidemics of cerebrospinal meningitis, the meningococcus is often found in the throats of persons who may or may not later exhibit the characteristic symptom complex of the disease. It is also found in the throats of patients after recovery, thus constituting a means of disseminating the disease. Syphilitic sore throat is by no means an extraordinary occurrence and should be taken into consideration. "Septic sore throat" should also be mentioned in this connection. In making a diagnosis of "cold" the physician should always be careful to exclude the possibility of mistaking a local manifestation of a serious infection for the comparatively mild inflammation caused by the ordinary "cold" bacteria.

SUMMARY.

1. "Colds" are due to the activity of bacteria always present in the respiratory tract which become pathogenic on account of depressing external physical influences or internal derangements causing a local venous stasis, and consequently a weakening of the antibacterial properties of the mucous secretions.

2. They may also be contracted by direct contagion from a person whose bacteria on account of a period of uninterrupted

growth have become highly virulent and capable of causing disease in a healthy person.

3. The rational treatment consists of relief of local congestion, general symptomatic treatment, and the heightening of the antibacterial properties of the blood and secretions by the use of a bacterial vaccine containing all the usual bacteria present in acute respiratory catarrh.

4. Methods of prophylaxis should include the control of physical conditions, improvement of general health means of preventing direct contagion, and the immunity to be secured by repeated injection of bacterial vaccines.

5. The antibody-forming mechanism is not burdened to any greater extent by the injection of many varieties of bacteria simultaneously than by the injection of one variety alone, although the combined dosage may be many times that which would be considered a proper dose of a single bacterial species.

DISCUSSION.

Dr. Walter Webb, Swarthmore: I heartily approve of all that has been said by Dr. Hitchens. I am sure that many of us agree that acute catarrhs of the mucous membranes of the upper respiratory passages are among the most common of diseased conditions of fall and winter, and we know that little attention has been paid to mild cases, while in severe forms we are unable, in many instances, to give proper care, the patients frequently not wishing to follow our advice. Our means of treating these conditions have greatly varied, and our results have been unsatisfactory. Many of us have not realized that these conditions are due to great numbers of bacteria, classed as catarrhal organisms. This probably accounts for our remedial agents' not doing what is expected of them.

During the past winter and early spring months, I have treated all cases of catarrhal conditions of the upper respiratory passages with pulmonary mixed bacterins exclusively, without a single failure. Many patients were relieved entirely within one week, only a few requiring more than two or three injections; those to whom I gave several injections were rendered practically immune from colds for the entire winter. I would strongly urge the use of this remedy as I feel sure that, if properly done, the results will far exceed our expectations. I had a number of cases in which people had been sick during previous winters with coughs and colds. In these cases, the results were excellent, the cough disappearing within a short period. I will just read one or two of these cases:—

Mrs. W., aged forty, the mother of three children, and in poor general health, consulted me with reference to cold in the head. That, she said, was always followed by cough. I gave an injection, ½ A., on March 21, 1912, which was followed in twenty-four hours by great relief of the head cold. Cough did not develop. On March 26, I gave a second injection, ½ A. The temperature was 99°; the pulse, 64. The interesting feature of this case is the fact that this patient has for several years had considerable discharge (purulent) from the nose. She has seen several specialists and been operated on for nasal trouble. Following the first injection, the discharge from the nose lessened; and after the second it almost entirely disappeared, so much so that I have been unable to get a sample of the discharge.

Mr. E. J. W., aged forty-two, in business in a Philadelphia office, while in good general health had had for several winters very severe cough or bronchitis which had lasted for about six weeks. He had always tried various medicines, but could get no relief. On February 7, 1912, he was in bed, with a temperature of 101° and moderate expectoration, coughing constantly. I gave the first injection, ½ A., at 10 a.m. On the night following the injection, he slept well and coughed only occasionally. On the 9th, he went to business. On the 11th, at 10 a.m., I gave a second injection, ½ A. On Monday, February 12, the cough had entirely disappeared, and did not again return. Mr. J. says that it is the first winter that he has been relieved of cough for several years.

I am extremely careful to cleanse the parts thoroughly when injection is made, with ether or alcohol. From the results obtained, we must realize that the serum treatment is a most rational and scientific procedure, and is far in advance of old methods of treatment.

Dr. Nelson E. Newbury, Scranton: I should like to ask Dr. Webb about the use of the serum treatment in children. We have many cases of children with colds all winter, and I have one such in my own family. In regard to the reaction from this serum, what reaction should one look for and what is the dosage for a child?

Dr. Webb: I have used the serum in five children under ten years, employing a small quantity and lengthening the interval between injections. I have had no reaction, except an inflamed condition at the area of injection. In most cases, the children made a speedy recovery and were not inconvenienced.

Dr. Hitchens, closing: I should like to emphasize one or two points with regard to the use of bacterial vaccines. The first is the importance of diagnosis. As soon as we know what bacteria are causing the infection, it is a simple matter to increase the antibacterial powers of the body fluids against these bacteria. Whether or not the fluids of heightened potency bring about a beneficial change in the condition of the patient depends almost entirely upon whether or not the bacteriotropic substances in the fluids reach the infecting organisms. In some conditions no special procedure is necessary to bring this about; it happens in the natural course of events. In other types of infection there seems at present no possibility of obtaining intimate contact of the artificially produced antibodies and the infecting bacteria. In these conditions no apparent benefit results from vaccine therapy. Between these two extremes there are various intermediate grades. It is the duty, then, of the physician to study the whole problem presented by the disease and use every means possible to bring about intimate contact of body fluids and infecting elements. It must not be forgotten that while the infection is eliminated, the symptoms may continue as a result of the tissue change caused by the infection. For instance, in certain pathological conditions within the nose one may have all the symptoms of a cold, no matter how free from infection the nasal mucus may be. Unless such a pathological condition is relieved neither treatment by vaccine nor drugs may be of any apparent value.

A final point is the interesting observation that many persons immunized to the bacteria commonly responsible for acute nasal catarrh appear just as susceptible to the earlier symptoms of colds as they were before treatment. Wet clothing, draughts, the inhalation of particles of dust, etc., may result in a severe coryza with congestion of the mucous membranes, but as soon as these external conditions are removed the vasomotor equilibrium is restored to normal and the symptoms disappear.

HYPOPYON ULCER OF THE CORNEA AND ITS TREATMENT.

BY C. M. HARRIS, M.D.,
Johnstown.

(Read in the Section on Eye, Ear, Nose and Throat Diseases of the Medical Society of the State of Pennsylvania, Scranton Session, September 26, 1912.)

Every ulcer of the cornea demands our serious consideration as the attending symptoms usually incapacitate the patient, and corneal transparency and smoothness are always affected after recovery. Much vigilance should be exercised in preventing transposition of simple ulcers into infected or serpent ulcers and drastic treatment should be the rule when such a process is already established. It is conceded that some degree of destruction of the corneal surface is necessary before such an infection can occur and a slight wound may give rise to a dangerous ulcer. My observation has been that bits of rock (even from the depths of a mine), particles of dirt from road and the farm, and penetrating wounds are most apt to cause ulcus serpens.

Of course some germ must be present in an infected ulcer and the one most often found is the pneumococcus with the Morax-Axenfeld diplobacillus a close second. Among others may be mentioned the Klebs-Löffler bacillus, the gonococcus, streptococcus, mycelium, bacillus subtilis, etc. These may be introduced by the object causing the injury, may be resident in the conjunctiva, may extend from the lacrymal passage or they may be carried from some other source. Cultures are often necessary for identification. When we reflect that many eyes are the habitats of septic bacteria, it is remarkable that so many ulcers are of the simple type. Evidently much must depend upon the number of germs present, their virulence and the general and local resistance of the patient.

This variety of ulcer usually has its

origin at some point in the lower three fifths of the cornea and extends by means of a crescentic margin of varying size. For some distance into the intact cornea may be seen the grayish evidence of infiltration while the invading border is undermined by the necrosis. These ulcers may be shallow or deep, the floor back of the invading crescent may be clean or very purulent, depending upon the depth of process. In either event, the intraocular involvement may be quite marked.

Unless such an ulcer clears up during the early stages, we usually note the occurrence of hypopyon or pus in the anterior chamber. This pus is commonly fibrinous but may be liquid or a mixture of both, and prior to perforation is sterile. Some of this material is often found clinging to the posterior surface of the cornea back of the floor of the ulcer, while the bulk of it gravitates to the inferior part of the anterior chamber.

One authority claims that the patch on the posterior layer of the cornea is formed by penetration of leukocytes from the floor of the ulcer while others state that all of such pus has its origin from the iridocorneal angle, the iris or the ciliary body, according to the severity of the infection. When such an ulcer is well established, the aqueous appears turbid, the iris is more or less discolored and very sluggish. The lids may be swollen and the conjunctiva is intensely injected and possibly chemotic. Panophthalmitis may follow corneal perforation on account of the advent of the septic germs.

As the diagnosis of ulcus serpens is usually not difficult, more importance is to be attached to the treatment. Prophylaxis has already been touched upon. If these ulcers are seen early I believe it to be good practice frequently to use cleansing measures, consisting of boric or weak bichlorid solutions followed by argyrol, atropin regardless of the location of the ulcer, hot stupes alternated with dionin, gentle curetting, and application of tincture of iodin, according to progress. If the suppuration is progressive I do not hesitate to apply the electrocautery to the purulent floor and the invading edge, burning well out into the infiltrated area. This may be repeated on subsequent days if needed. Should pain be intense at this time and the anterior chamber deep with increasing hypopyon, I usually tap the anterior chamber with a keratome at some dependent point in healthy cornea.

My aim has been to evacuate much of the hypopyon and the aqueous, noting that there is less pain if some aqueous is left to prevent contact of the iris with the cornea. Suddenly taking away all support to the engorged iris is not apt to affect favorably the feelings of the patient. If some of the hypopyon still clings beneath the floor of the ulcer I believe it to be well to leave it there as I have seen small central perforations without inclusion of iris refuse to heal when this plug was removed. After careful observation, I have come to assume that, in some cases at least, this patch of fibrinous matter exercises a supportive influence although I am aware that some authors claim it promotes degeneration of the posterior corneal layers constituting the floor of the ulcer.

On the day following a paracentesis the situation should be carefully observed, and if drainage is deficient and the symptoms not improved, or the floor of ulcer is bulging, the wound should be opened with a spud or spatula. I do not believe that any rule can be formulated for guidance in the matter of cauterization and paracentesis, but judgment and the courage of one's convictions are most important.

As the cornea is often less sensitive than usual, little difficulty may be experienced in cauterizing after using four per cent. cocain solution, and forceps may be discarded. In doing the paracentesis, fixation is necessary and much pain is the rule when the engorged conjunctiva is grasped. To obviate this I commonly instill a few drops of four per cent. cocain solution and 1-1000 adrenalin chlorid and follow it in a short time by crystals of cocain, which are applied where the conjunctiva is to be grasped and at the limbus near the point of the proposed incision. Objections may be made to such an application on the ground of disturbance of the corneal epithelium, but it is a desperate situation and I have never noticed any untoward results. In very irritable eyes the cocain crystals may be directly applied to the ulcer before cauterizing.

During the active stages, I usually attempt to remove all detachable slough daily, as the retention of it seems to promote suppuration. After the ulcer becomes clean, scarlet red ointment may be used to advantage on account of the rapid regeneration of epithelial tissue which it apparently causes. My patients are usually purged and given tonics, mercury or salicylate according to fancy, although scientific data as to their value is lacking. When the floor of the ulcer is weak a properly applied pressure bandage may be of use, although paracentesis usually renders more than a pad unnecessary. It may be argued that such a patient should be in bed, but I have observed that ambulant cases which have the attendant healthful advantages often do better than those confined to beds in hospital wards.

The salient points in the local treatment are: (1) Cauterization removes germs and infiltrations which destroy tissue; (2) well-chosen paracentesis relieves stasis and pressure incident to the inflammatory process, and removes the hypopyon which may exert a destructive effect on the posterior layer of the cornea or cause synechiæ and pupillary obstruction; (3) the use of scarlet red ointment may prevent keratocele or staphyloma.

I have not used serums, vaccines and the subconjunctival injection of mercuric cyanid; although the latter shall have a trial according to the method of Dr. Jones of Cumberland, Md., as soon as a suitable case appears.

The subject of this paper was not chosen with the idea of presenting anything new, but to call attention to the importance of using well-known procedures with such promptness and perseverence as the case demands, for nothing is gained by temporizing while the suppuration is progressive.

DISCUSSION.

Dr. George W. Carr, Wilkes-Barre: I know of nothing that is more interesting to talk about and of no more discouraging thing to treat than hypopyon ulcer of the cornea. This particular region is prolific of ulcers. The injuries in the mines cause a great many, frequently associated with pus in the anterior chamber. I thoroughly agree with the treatment outlined by Dr. Harris, except in the fact that I do not believe that patients do as well walking around. My experience has been that the men are very much more comfortable and their wounds heal more quickly when there is absolute rest with the proper surroundings, which they do not get, as a rule, in their own homes. The majority of these people have such unsanitary conditions at home that the treatment is not nearly so favorable as in the cases that are treated in the hospital where proper food and hygienic surroundings and rest in bed seem to give, as a rule, very much better results. I have found that the use of an ointment of iodosyl has been very satisfactory as it stimulates the sloughing tissue. The subconjunctival injection of dionin has been very effective, also. In ulcers of the cornea that nothing else will relieve, the subconjunctival injection of five per cent. dionin certainly does good. Ulcers of the cornea are usually such desperate cases that either the patients lose their vision or the physician loses his reputation. Aside from the point that I have mentioned, the treatment outlined by Dr. Harris is what I should use in all cases of hypopyon ulcer of the cornea.

Dr. John B. Corser, Scranton: I should like to ask Dr. Harris whether I correctly understood him to say that he uses a bandage over the eye in the patients allowed to be out of doors.

Dr. Nelson S. Weinberger, Sayre: One part of this treatment is particularly important, and that is dionin. Another part of it that I consider very important is that we should see that there is good drainage through the lacrymal duct into the nose.

Dr. G. E. Dean, Scranton: The last speaker mentioned one of the most important points in the whole category. If every other point in the treatment were taken out, this would often bring success. There could not be a more important point than attention to the drainage through the lacrymal duct. In a very large percentage of cases of corneal ulcer that are persistent, there is some trouble with the duct, even if merely it is not sufficiently large for complete drainage, and I have found much better results when attention has been given to this.

Too little attention has also been paid to performing the old-time operation in suitable cases of incision right across the corneal ulcer. Incidentally, I might speak of a case that impresses the importance of this. In severe cases the patients should be kept indoors, perhaps in a darkened room. I find that the patients are apt to take too much liberty, if allowed to go about. The case to which I have referred was one that illustrated both these points. The patient was a foreigner here, who received some injury to the eye, probably in the mines. The eye became infected and he had an ulcer, which was not so severe as it was persistent. It would get a little better, and then relapse. He was coming to my office for treatment during unfavorable weather conditions. I performed the operation of Saemisch; the patient got better for a time and then relapsed. I sent him to Wills Eye Hospital, to Dr. Posey, who repeated the same treatment in the hospital that I had given him at home and the man promptly recovered.

Dr. J. B. McMurray, Washington: This is an important subject so far as oculists are concerned. I believe that the question of prophylaxis should be more thoroughly dwelt upon. I have lately seen four cases of badly infected wounds following the removal of very small particles from the cornea by the general practitioner. Far be it from me to criticize the intentions of these men but it was crude and careless work. It takes a great deal of nerve for the specialists to ask for an opportunity to go before the general practitioners of the county societies in order that we may tell them how to treat these cases. I believe we should in some way try to increase the knowledge of physicians generally, as to the danger accompanying the careless removal of foreign bodies from the cornea.

Dr. Frederick C. Stahlman, Charleroi: I am interested in this subject because I am in the soft-coal regions. I do not know why the traumatism is so much more serious from coal injuries than from those occurring in steel mills, for instance; but it is a fact. Our mills in the Monongahela Valley furnish a good many injuries resulting in destruction and ulcers of the cornea. I rarely have any trouble in cases of that kind, from other sources, when treated early. I should like to know why coal injuries are so much more dangerous than injuries from mills, etc.

Dr. John B. Turner, Philadelphia: These ulcers of the cornea are, according to my experience,mostly caused by pneumococcous infection. I clean them off well and use the actual cautery. Of course, there will be a defect of vision afterwards, but we want to save the eyeball. To get rid of the hypopyon, make a section, but not a Saemisch section, and wash the anterior chamber out. That is the best that we can do. The last case of the kind I had was that of a boy, who came in with a hypopyon. We saved the eye. He has quite a large leukoma, and sees fingers at one foot. The point that I should like to emphasize is that no other than the actual cautery is of use.

Dr. Corser: I want to suggest an answer for Dr. Stahlman. I spoke, three or four years ago, of the fact that miners have not the intense sensitiveness of the eye that is possessed by people in other lines of work. These men get foreign bodies in their eyes and carry them there until they slough out, without much pain; and they come to the physician with pain only after the deeper structures have become involved. I believe that the dust and the air in the mines have something to do with the manner in which these men carry foreign bodies in their eyes.

Dr. Weinberger: I have treated a great many coal injuries, and I thought that all these coal injuries were, as a rule, much harder to cure after they had developed ulcers. I was interested in the statement of Dr. Corser that the eyes of miners are less sensitive than those of other persons, but I also think that they are harder to cure after they have been injured.

Dr. G. R. S. Corson, Pottsville: I want to indorse what Dr. Corser and Dr. Weinberger have said. I have had a number of patients come to me with coal injuries that they had received a week or two before, no attention having been paid to them; on examination, I have found an ulcer of considerable size and depth. These men's eyes are not so sensitive as other persons'; whether it is because they work down in the mines, sometimes hundreds of feet lower than the level of the sea, or because of the atmosphere that they are in, that the sensitiveness of the cornea is less, I am not prepared to say; but I have observed the fact. I agree with Dr. Weinberger that they are harder to treat. The patients are usually seen after the ulcer has developed. When I do not see my way clear to use the actual cautery, I touch the wound with pure tincture of iodin. It seems to have an alterative effect, and to help in the healing and prevent further filling up of the anterior chamber.

Dr. W. Hardin Sears, Huntingdon: I see quite a number of these cases from the soft-coal regions below us, and in the desperate cases it is almost impossible to get results from ambulatory treatment. It is necessary to put the patients to bed in the hospital, where they can have treatment given properly and to the best advantage. To allow them to go home is to court disaster.

Dr. C. J. Kistler, Lehighton: I live on the edge of the coal fields, and some of my patients are miners, some are railroaders, and some are members of the farming community. I have observed that coal miners are harder to cure, but I assumed that a man, who works out of the sunlight and under the conditions generally existing where miners work and live, has a lowered vitality and has not the same health or recuperating power as the farmer or railroader. The coal miner has pale, sallow cheeks, so I give iron, quinin and strychnin in connection with the eye treatment and think that it helps a great deal. That is one reason for the difference between miners and other people that I have found,—the generally lowered vitality of the miner as compared with that of the farmer or the railroad man.

Dr. Wendell Reber, Philadelphia: The author raises the point of just how calomel does good. My own feeling is that it assists the blood to create antibodies in the effort to throw off any infection. Tapping, I believe, is good, and better than the Saemisch section. We consider it of great value. Washing the eye with boric acid and formalin (1-5000) every hour is also of service. If the patient will bear iodoform dusted into the eye, it is the best single measure in these cases, that can be indulged in. Pure tr. iodin (U. S. P.) applied directly to the ulcer is one of the most valued measures. Subconjunctival injections can not be disregarded. Even when of normal saline solution, they will do much good. Injections of bichlorid (1-2000) are often helpful. Oxycyanid of mercury (1-1000) is highly recommended but the reaction is violent.

Nothing has been said about the treatment of the nose in corneal ulcer; that is what I have been waiting for some one to speak of. Lacrymal obstruction will cause infection, but we should go farther, and treat the cause of the lacrymal obstruction. Then all the patients will recover more rapidly if careful local and general treatment is conjointly applied.

Dr. Harris, closing: I am afraid that I did not sufficiently qualify my statement about the ambulant cases. Everything else being equal, I consider that the arguments regarding that question are sound. Most of my hospital cases have been in the sallow, poorly nourished persons. These patients go into a hospital ward, which is not, as a rule, well ventilated or well lighted; and this is not good for them. In our hospital we have sun porches around the ward but very little sun gets into the ward. Moreover, nursing in a general hospital can not be the same as in the Wills Eye Hospital or any similar institution. These things have had something to do with the lack of more ready improvement in the hospital cases than in the ambulant cases. Of course, there is also a difference in the homes. Some people can do well and take good care of themselves at home. I would not want to send the average common laborer home, if I could get him in a better place. I have no doubt that, with a hospital room and a private nurse, these patients would naturally do better than would the ambulant cases.

In regard to the bandage, I do not believe in the tying up an eye, thus making it warm and retaining the secretions, if it is possible to keep it free, well ventilated and well drained. If there is weakness in the floor of the ulcer and we desire to support it, a well-placed bandage is indicated; but the average bandage is a failure in an hour or two. The movement of the muscles of the head affect its fitting. If you depend on the nurses and other attendants to reapply the bandages, it will not be done in the way that you want it. I relieve the tension by paracentesis and place a light patch over the eye to keep it shielded. The patch can then easily be taken off; the eye can be irrigated, and there is no complication regarding dressings, etc.

With respect to the predominance of badly infected ulcers in miners over those in steel workers, I think that question has been very ably taken up. The only explanation that I can offer is that there may be less infection in steel mills than in mines, where there are all sorts of dirt to cause it.

With reference to the matter of nasal treatment, I will say that I did not refer to it, but I have usually taken cognizance of that aspect of the cases, and often prescribed a nasal douche to flush the passages. I do not see what we could do to the lacrymal sac at such a time, except to irrigate it. While all these things have their bearing, I think that when an ulcer gets well infected, the physical resistance and recuperative powers of the patient are more important than contributory sources of infection.

THE VALUE OF PYELOGRAPHY IN THE DIAGNOSIS OF SURGICAL DISEASES OF THE KIDNEY.

BY F. E. KEENE, M.D.,
Philadelphia.

(Read in the Section on Surgery of the Medical Society of the State of Pennsylvania, Scranton Session, September 25, 1912.)

Pyelography is but one of the numerous procedures that have contributed to exact diagnosis in surgical diseases of the kidney. Cystoscopy, ureteral catheterization, the skiagraph, and the various functional tests together with the study of the chemical and the bacteriological contents of the urine, have transformed what was formerly a field of uncertainty into paths of accuracy and precision.

The pyelograph is a skiagraphic plate taken after the pelvis and ureter have been injected with some substance impervious to the *x*-ray. While this method of examination is by no means new, its employment has not been so generally adopted as its importance warrants. In our limited experience of fifty cases in Dr. Clark's service at the University Hospital, it has been of the greatest value, and we now use it conjointly with other examinations in all cases presenting symptoms referable to the kidney.

The technic is simple, but certain minor details must be carefully followed to obtain satisfactory results. The ureteral catheter should be as large as possible in order to prevent a return flow during the injection; we have found a No. 6 or 7 most suitable. When the work was first undertaken, the catheter was inserted into the pelvis of the kidney, and, in several instances, the injection was followed almost immediately by severe renal colic. We were inclined to ascribe this to the irritation of the injected fluid, collargol, and varied the percentage of the solution from one to ten with no apparent relationship between the strength of the solution and the extent or absence of pain. Subsequently, we adopted the plan of inserting the catheter into the ureter for a distance of only fifteen centimeters, and then made the injection, with most satisfactory results both as regards the absence of pain and the clearness of the skiagraph. We use a warm ten per cent. solution of collargol, freshly prepared for each case. The injection should be made very slowly by means of a large, graduated syringe, and discontinued the moment the patient experiences the slightest sensation of fullness in the kidney region. After the picture has been taken, the catheter should not be removed until the excess of collargol has drained away.

The question naturally arises, Is the procedure harmful to the kidney injected? When proper precautions are used, we can answer this in the negative. The urine has been repeatedly examined after injection, and no evidence was found which pointed to the contrary even in cases with severe pain. As in any cytoscopic examination, the utmost care must be exercised in regard to asepsis and the avoidance of unnecessary trauma to the bladder and ureter. Collargol is non-irritating and an antiseptic; its only disadvantage is the cost. We minimize this by having the crystals dispensed in small bottles, each containing a sufficient quantity to make an ounce of a ten per cent. solution.

The object of the injection is to depict the actual outlines of the renal pelvis and ureter. The normal pelvis shows quite marked variations in size and shape, and a proper interpretation of the picture necessarily demands a skiagrapher experienced in this line of work. I am under the deepest obligations to Dr. Pancoast for his able assistance. Distortions of the pelvis and ureter are frequently associated with the surgical diseases of the kidney; the underlying lesion often modifies the normal contour in such a characteristic manner that its recognition is made easy by the pyelograph.

Dilatation of the ureter and pelvis may be mechanical or inflammatory in origin, and the differentiation of the two can frequently be made. In mechanical obstruction, due, for example, to a calculus, the dilatation is symmetrical, the calyces are no longer narrow with somewhat squared ends, but have become broader and evenly rounded, and the pelvic outline shows increased dimensions, but, throughout, an equally distributed dilatation. This applies likewise to the ureter, which is partially blocked by a stone or stricture. With inflammatory dilatation, on the contrary, as in tuberculosis, a different state of affairs is presented. There is an absence of uniform dilatation; the picture shows detached, irregular shadows communicating with the pelvis, representing the outlines of cortical abscesses so characteristic of the disease. Not infrequently, the ureter is the seat of one or more inflammatory strictures, and, if it be possible to catheterize the ureter under these circumstances, the alternate dilatation and contraction is recognizable by the distinctly beaded shadow of the skiagraph.

In the diagnosis of hydronephrosis, especially the intermittent type, this method is infinitely superior to the older procedure of measuring the quantity of urine contained in the pelvis or of estimating its capacity by the injection of fluid. As previously stated, the size of the pelvis varies between fairly wide limits, and what may be normal for one individual may be decidedly abnormal for another; further, we can not accurately judge the capacity by the continuous dropping of urine from the catheter after the pelvic contents have been tapped since a reflex polyuria is not uncommonly excited by ureteral catheterization. It is also conceivable that with intermittent hydronephrosis, the examination will have been made during the period of perfect drainage so that no retention can be demonstrated. These objections can be readily overcome by the pyelograph which shows definitely the alterations already described.

When renal calculus is suspected, it is advisable to take a picture prior to injection, since the shadow cast by the collargol is often of sufficient density to completely obscure that of the calculus. In the diagnosis of the presence of a renal calculus *per se*, it is obviously unnecessary to resort to the collargol injection, but the procedure is of distinct value in affording more accurate knowledge as to the exact position of the stone. This applies especially to those cases in which it is impossible to say definitely from the skiagraph alone whether the shadow is intra or extra renal. The relationship of the pelvis shadow to that of the suspected calculus readily settles the question. The pyelograph is of still greater value in the diagnosis of a stone within the ureter and the differentiation of ureteral calculus from phleboliths along the line of the ureter. The composition of the stone or its position with reference to the vertebræ or the bony pelvis may be such that its shadow will not be shown in the skiagraph; the coating of collargol adds sufficient density to render its shadow heavier than that of the surrounding structures. When the stone has been present for any length of time, the proximal portion of the ureter undergoes dilatation and the actual demonstration of this dilatation, as is clearly brought out by the injection, is of the greatest importance in clinching the diagnosis. Passage of the catheter above the obstruction before injection is unnecessary; as a rule, sufficient solution escapes around the stone to make the dilatation perceptible.

In the differentiation of intra- and extra-ureteral shadows, the pyelograph has a decided advantage over the older method of passing the stiletted or *x*-ray catheter. Should the phlebolith lie directly in the line of the ureter, the stilet may give the impression that we are dealing with an intra-ureteral shadow; an absence of dilatation as shown by the collargol injection will prove the reverse to be true.

This method may also be of value in determining a symptomatic movable kidney or in the differential diagnosis between a movable kidney and other lesions of the abdomen, especially the right upper quadrant. Such a differentiation may be possible even before the stage of pelvic dilatation, and this is done by demonstrating a kink in the ureter at or near its junction with the pelvis. For this purpose, the collargol is injected and the picture taken in the recumbent position; the patient is then placed in the upright posture and directed to breathe deeply in order to dislocate the kidney. If the catheter has been inserted into the pelvis, it is withdrawn about ten centimeters, at the same time continuing the injection, when a second picture is taken. By comparing the two, the angulation may be demonstrable. To facilitate this change of position, we have constructed a special table with a hinged top similar to that described by Skinner.

Renal tumors and the congenital cystic kidney may cause sufficient distortion of the pelvis or calyces to be recognizable in the pyelograph. According to Braash, this occurs in about one third of all neoplasms and consists either in a compression of the pelvis or retraction of the calyces, depending upon the direction of growth of the tumor.

The foregoing is but a brief summary of the more common lesions in the diagnosis of which the pyelograph offers valuable aid. The test is not infallible and is not to be relied upon to the exclusion of others equally important. We know from actual experience, however, that it forms a valuable adjunct not only in the diagnosis of surgical diseases of the kidney and ureter but also in the interpretation of symptoms arising from a neighboring organ which may be referable to the kidney.

DISCUSSION.

Dr. Brooke M. Anspach, Philadelphia: Pyelography, as Dr. Keene has told you, consists essentially of a skiagraphic plate taken after the pelvis and ureter have been injected with some substance impervious to the *x*-ray. It is analogous to the pictures taken of the stomach and the gastrointestinal tract after the injection of bismuth, and is an exceedingly valuable diagnostic aid in disease of the kidney. Just as he has told you, we have used it in the University Hospital in a series of fifty cases, and I doubt whether any kidney operation would be performed without this test being previously applied to complete the diagnosis and add to our information. Some of the cases which Dr. Keene has shown, have been of great interest. There was one in which the injection helped in the diagnosis of a ureteral calculus. The patient had had urinary symptoms for years; there was blood and pus in the urine. The first *x*-ray was negative, but the second, taken after an injection of collargol, was positive. In this case the shadow of the stone was directly over the shadow of the ileum; the stone alone could not be discerned; the stone plus the collargol intensified the shadow so that it was readily distinguished. Although this stone might have been diagnosed by the passage of a wax tip catheter through a Kelly cystoscope, it was much more readily done by injecting collargol. Another case in which this method proved of great value, was that of a woman who had had an operation on the kidney; by the ureteral catheter alone, a stricture of the ureter within a few centimeters of the bladder could be diagnosed. The injection of collargol brought out the fact that she had two strictures, one low down, one near the kidney. I am sure that without collargol, the upper stricture would have been missed.

A very fat woman who complained of crampy pain in the left side of the abdomen, was admitted to the hospital. The diagnosis was intestinal adhesions. In that case, an enormous hydronephrosis was found which would hold 60 c.c. of a collargol solution. No enlargement of the kidney could be detected by palpation. Without the collargol injection and the *x*-ray, the true nature of this case would have been found only by an exploratory section.

Such cases are not always easy to diagnose by simply passing a ureteral catheter. You may strike a time when drainage is perfect, and an extraordinary discharge, as soon as the tip of the catheter enters the renal pelvis, does not occur. A fourth factor of great value in this method is seen in borderland cases, where you suspect the kidney of being the cause of pain, and yet are not sure. In them an *x*-ray, after the injection of collargol, will often demonstrate a kidney kink, if the pain is due to dislocation of the kidney downward as in a floating kidney. In a case seen during the summer, there was considerable doubt as to whether the patient was suffering with a chronic appendicitis or a beginning hydronephrosis. The kidney was freely movable, but the attacks of pain were not typical of either kidney colic or appendicitis. A pyelograph demonstrated clearly that the kidney pelvis was not distended, and that there was no ureteral kink. Pyelography is one of the most valuable means of actually determining what is wrong with a kidney. The technic is not easy, and can hardly be carried out by anyone not practiced in the use of the cystoscope. You must have a catheter which fits the ureter pretty closely. You must know when to stop your injection. The capacity of the normal kidney varies under various circumstances. There must be skill, not only in the introduction of the collargol, but the skiagraph itself requires a skilled, experienced man. I think anyone who tries the method, will be delighted with the accurate portrayal of kidney it gives, and how much help this accurate knowledge is in many kidney operations.

Dr. J. I. Johnston, Pittsburgh: I want to congratulate the doctor upon the excellent exposition that he has given on the subject. Not only have the illustrations been good, but the technic has been brought before our attention. The work is not new. The only thing new about it that he presented was the value of change in posture and that was brought out beautifully two years ago by Dr. Snover of Denver. He showed that many kinks would be missed if the patient were not in the recumbent posture. It would be best to make them with recumbent posture and then in the erect position. There were two or three things in the technic that were not brought out; that is, a man who is doing the catheterization should be careful to extract as much urine from the kidney which it is proposed to explore as possible; have it practically free of urine, otherwise the collargol dilution will interfere with the differentiation of the plate. From the standpoint of the Röntgenologist an important point is that the man who is injecting the solution should know how much head he shall place on the syringe and then not leave in the hands of the Röntgenologist the patient with renal colic. That is what will happen if just a little too much distention is made. Another thing shown when least looked for in these cases is the horseshoe kidney. Snover showed some beautiful horseshoe kidneys. They were unexpected. The advantages are manifest. It shows the degree of dilatation of both ureters and after you have injected a few patients you find they are where the patient chooses to have them, not where they should be anatomically.

Dr. George Erety Shoemaker, Philadelphia: Some of these pictures are of great interest. The method is one which adds a great deal to our technic. There is one thing to be remembered, however; when we have diagnosed a kink in the ureter or pelvis or hydronephrosis we must be sure of the function of the other kidney before doing any operation. I was fortunate upon adding the color test to such a diagnosis not long ago in finding an absolutely functionless kidney on the other side, thereby preventing operation which would have cost the patient's life.

Dr. J. M. Baldy, Philadelphia: I do not care to touch on what has been said in discussion. The advantages of the work are entirely evident, but I noticed that gentlemen in presenting these new things never talk about the dangers. These we ought to know about. I happened to be present at the Johns Hopkins Hospital when Kelly gave a beautiful demonstration of an injected kidney and cut down on it for operative purposes. He found all the collargol in the suprarenal fat of the kidney: in other words, I imagine the ureter had been punctured in the course of the injection. At any rate the cause was not located at the time and the patient had to be sent back to the ward in the very uncertain condition she was in.

Dr. H. R. Loux, Philadelphia: In one of our cases in the wards of the Jefferson Hospital, where we had used collargol, introduced by syringe, this patient developed an acute nephritis which no doubt was the result from overdistention of the pelvis and calyces; immediately following the injection, the patient had an attack of renal colic, lasting for a short time only. We have used collargol in our clinics quite extensively and we do not find it to have any irritating qualities. I believe if we could resort to the introduction of collargol by hydrostatic pressure, we would in a great measure obviate the over distention of the calyces of the kidney and the trauma which follows.

Dr. Keene, closing: The accident which Dr. Baldy refers to can be avoided by using a catheter without a stilet, passing it up the ureter very slowly; as soon as an obstruction to the passage of the catheter is encountered, no attempt should be made to overcome this obstruction by an undue amount of force. By instructing the patient to inform us when she has the slightest sensation of fullness in the kidney region, all danger of rupture of the pelvis from over distention is obviated. In regard to the experience which Dr. Loux had with this method, I do not believe the collargol can be blamed for the acute nephritis, since it is not irritating in even much stronger solutions than we employ.

"The whole Art of Medicine is in Observation."

BENIGN PYLORIC STENOSIS.

BY LEVI JAY HAMMOND, M.D.,
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(Read in the Section on Surgery of the Medical Society of the State of Pennsylvania, Scranton Session, September 24, 1912.)

It is now generally admitted that fully four fifths of the surgical diseases of the stomach are located at the pyloric end and, further, that atresia is the major factor to be reckoned with. In other words, impairment of drainage through the pylorus into the duodenum, whether organic or purely mechanical, must be relieved by surgical interference; the particular steps in the procedure depending entirely upon the character of the mechanical lesion or morbid process.

I shall not enter into a discussion of those morbid processes, which are common factors in pyloric obstruction, such as malignant tumors, gastric and duodenal ulcers, and angulations from adhesions, but, instead, limit myself to a consideration of benign stenosis of interstitial origin, as my observations have led me to the belief that a minor degree of hypertrophic stenosis is by no means uncommonly met with, even in advanced adolescence, and that transition into malignancy is more common than the malignant transition from simple ulcers.

From the studies of Hezekiah Beardsley in 1788 down to the present time there have been many evidences of the prevalence of benign stenosis, both from the frequency of its appearance in literature, and painstaking observations on the operating table and at post-mortem.

At the present time physicians have learned to recognize this congenital defect so promptly that the rapid increase in the number of cases reported, no doubt, means that heretofore their scarcity in literature was due to failure in their recognition, and that in reality they were more frequent than was formerly supposed.

Etiology. The pathogenesis still lends itself largely to a theoretic discussion. It seems however, logical to conclude, after some painstaking study, that solution of this problem must involve a consideration of those factors entering into defect in embryologic development of the tissues; as the presence of true hypertrophy has been definitely settled in cases which have come to the operating table or autopsy.

Anatomy. The pylorus is formed by reduplication of the mucous membrane of the stomach containing numerous muscular fibers aggregated into a thick circular ring, the longitudinal fibers and serous membrane taking no part in the formation of the ring, though they pass directly over it. The orifice differs very greatly in shape; it is occasionally oval, sometimes the circular fold is replaced by two crescentic ones, placed one above the other, below the orifice. More rarely, there is but one crescentic fold.

Indeed, there is no organ in the body, the position and shape of which presents more frequent alterations, and hence possibilities of inflammatory changes, than the pylorus, so that it seems quite logical to conclude that the cause of congenital stenosis can be found either in an embryologic defect of structure of the organ itself, or vice in the development of some of the determining organs, especially the liver, which encourages this stenosis through altering its position during the developmental period, or in a combination of the two, or a further embryologic factor may be found in an inverse twisting or reverse development of the longitudinal and circular fibers.

Pathology. Microscopic examination invariably shows a great increase in both the circular and longitudinal fibers of the pylorus, the greatest thickness being noted in the transverse. Considerable proliferation of the connective tissues is also demonstrable; the thickness in some instances amounts to three or four times that found in the pylorus of normal subjects.

It seems entirely possible for the rather intricate anatomic arrangement to meet with disaster in its embryologic development, either through defect in structure alone, or by reason of faulty position in which it may be placed by some determining organ, such for example as the liver, which is claimed by some biologists to influence the pyloric development through a shortening or twisting of the primary gut upon which it depends for its formation; hence, it must be largely influenced during development of the rudimentary liver in much the same manner as *citus inversus viscerum* is supposed to develop. Certain it is, that far the greater number of these cases have such coëxisting lesions as "cardio-vascular disease," hernia, etc. This position would be strengthened if transposition of other of the viscera was found to coëxist. I have not, however, been able to verify this either from personal experience or from the literature.

The near future will, doubtless, establish facts that are at present difficult to satisfactorily explain. At present there is a great difference of opinion as to the cause of the primary hypertrophy of the pyloric structure; some maintain that tuberculosis is a factor; my own experience has not enabled me to verify this assertion. That hypertrophy is often found at autopsy, where, during life, the person was the subject of only a moderate degree of digestive disorders, has been satisfactorily proved in those cases which have been carefully studied.

The pyloric walls are often several times their normal thickness. The finding of such definite pathology seems to disprove the assertion held by some that the condition is ever a simple pyloric spasm due to hyperacid gastric secretion, as any degree of hypertrophy is of itself a sufficient factor to encourage both hyperacidity and spasm, and chronic gastric stasis with venous engorgement results from even partial stenosis; also in the fact that the majority of the adults have long been sufferers from digestive disorders, and not infrequently there coëxists such congenital defects and abnormalities as distention of the colon, hernia, etc. These two conditions may be regarded as analogous congenital anomalies.

Causes. N. I. Nicholl[1] assigns the following as possible causes: (1) That the condition is the result of primary congenital developmental aberration, possibly connected with the junction of the pylorus of two different processes of development; (2) that it is the result of congenital hypertrophy of the muscular walls of the pylorus secondary to antagonistic and incoördinated action of the stomach on the one hand, and the walls of the pylorus on the other, this incoördination being dependent upon functional disorders of the gastric nervous system resulting in spasm; (3) that the condition is the result of a chronic inflammatory process.

That functional spasm plays a considerable rôle in the production of mere symptoms can not be doubted. A number of such patients I have personally observed. This is indicated by the alternating improvement and relapse that is commonly noted. I am not, however, ready to accept errors in digestion as the cause for the spasm, in view of the frequent finding of definite thickening through proliferation of the connective tissues which need not have gone to the length of totally obstructing the orifice, but only impeding drainage to bring about this chain of digestive derangement; the powerful pyloric muscle, having the function of contraction and dilatation, may maintain drainage even while extensively thickened walls exist, complete obstruction being comparatively rare, the presence and the degree of spasm depending entirely upon the degree of hypertrophy.

In the many cases, where recovery, under purely medical treatment, has been reported, cases in which the symptoms and signs have been typical, it is fair to suppose that the spasm has been the most prominent element and the degree of hypertrophy moderate.

For the purpose of more clearly picturing the condition from the symptomatic standpoint, they have been grouped in two classes (1) those in which hypertrophy in a marked degree exists though rarely totally obstructive, and (2) where only moderate hypertrophy exists but excessive spasms, with possibly a group of intermediate cases of even more minor hypertrophy.

Let the degree of hypertrophy be ever so moderate, a chain of digestive disorders will continue from birth even throughout a long life unless surgical intervention is resorted to. Cases classified as recurrent vomiting, influenced neither by drugs nor diet, are in reality those of a moderate amount of pyloric hypertrophy with recurrent attacks of spasm.

Symptoms. The constant symptom is vomiting, which, in the congenital type, begins soon after birth, is projectile, and continues until surgically relieved. At first, it may be nothing more than the regurgitation after eating, at others persistent, unyielding to medical treatment, and if the occlusion be not complete may at times be bile-stained. It is seldom accompanied by nausea.

If dilatation and sacculation of the stomach, which to some degree always exists, is not excessive, the food is usually well digested, which is proof that the digestive capacity of the stomach is not at fault. As a result of vomiting and consequent loss of nourishment, there is a general systemic poverty; the bowel is generally empty or only partly filled, resulting in constipation, progressive emaciation, exhaustion, subnormal temperature, and, in the completely obstructive cases, the picture of starvation.

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[1] *British Med. Jour.*, Sept. 1, 1900, p. 571.

The epigastrium is prominent because of the usually dilated stomach wall, while the hypogastrium is scaphoid because of the empty or partially empty intestines. The stools are scanty, and when obstruction is complete, or nearly so, consist mainly of bile and mucus.

After feeding, the peristaltic wave of the contracting stomach is often to be noted rolling from left to right from cardia to pylorus. At times, and dependent upon the thickness of the abdominal wall, the tumor can be felt in the region of the pylorus. It so often lies under the liver that this is not a frequent possibility.

When hypertrophy exists only sufficiently to cause spasm, it can be differentiated by the less severity of the symptoms, less rapid and less progressive loss of weight, with varying intervals of improvement, the length of interval being dependent upon the care and diet. In those cases, where excessive hypertrophy is the cause of the spasm differentiation can not, with accuracy, be made from hypertrophy alone.

Treatment. Medical treatment should be given in every case until certainty in diagnosis is established, except those cases which come under observation late and the picture of starvation is already clear, though in no case should medical treatment be persisted in until it has ceased to be of value for, if thus prolonged, surgery can not accomplish a full measure of usefulness.

The person who fails to respond to the following treatment after a reasonable period should no longer be regarded as a medical subject, but at once invoke the aid of surgery, even though the obstruction be due only to spasm, as it is more than probable that such patients die of inanition or malignancy, as spasm when intense, prolonged, and frequently recurrent is equally as dangerous.

Food, which is the principal treatment, should be as bland as possible. If an infant, breast feeding is most desirable. In an older child or adult, peptonized milk, whey, albumen water, beef juice, buttermilk, malt, soup, etc. These should be given in small quantities, because the act of swallowing alone in some cases excites spasm. Under such circumstances food should be given by gavage, with supplemental feeding per rectum; both should be systematically carried out; and inunction of sterilized lard may also be given.

The next indication is to keep the stomach freed by lavage of all irritating material. This should be used not more often than once, or at the most twice daily with bicarbonate of soda added to the wash water to render it less irritating, dissolve the mucus and neutralize the acid present. The time chosen should be just before the first feeding in the morning and at night.

Alkalies, if any drugs are indicated, should be used, especially in cases of hyperacidity. Atropin, cocain, and opium may at times be indicated for their sedative effect. If vomiting, loss of weight, and subnormal temperature still exist, surgical treatment must be employed. Incision will disclose at times a small, smooth, oval, hard and movable tumor, occupying the position of the normal pylorus, or a diffused infiltrated fibrous tumor extending well into the duodenum.

Surgical treatment should consist in either pylorectomy or posterior gastroenterostomy. The former is indicated in those cases where the morbid process is demonstrably localized, and, as this has not, in my experience, been frequent, posterior gastroenterostomy will meet the greater number of indications.

Mere dilatation of the pyloric orifice,

either instrumentally or with the finger, should never be attempted because the firm unyielding consistence of the structures would most surely cause rupture.

Prognosis. Early recognition of the condition present and prompt operative treatment after preliminary dietetic treatment, as indicated, should show a recovery of at least eighty-five per cent. after posterior gastrojejunostomy.

DISCUSSION.

Dr. Herbert B. Gibby, Wilkes-Barre: I have met with two patients, both adults, in whom hypertrophy of the pyloric muscle was considerable, but not so great as to interfere markedly with the nutrition. While the patients were not up to normal weight they were not very much below it. My diagnosis was made from symptoms which were quite characteristic of gallstones and so I made the diagnosis of gallstones. On operation I found the gall bladder perfectly normal, but hypertrophy of the pyloric muscle. One case was particularly interesting as substantiating Dr. Hammond's idea that these cases occur particularly where there are other congenital deformities or absence. In this case there was a congenital absence of both ovaries, and the uterus was very small. In both cases I did the Finney operation. The results were excellent. Both patients gained in weight and the symptoms entirely subsided.

Dr. Herbert D. Gardner, Scranton: Some ten years ago I was called in an emergency to see a patient whom I found walking the floor and apparently suffering great pain. She called my attention to the hard boardlike feel of her abdominal muscles, also of her extremities (tetany) and asked for a hypodermic, saying, she could not bear the pain.

Her distress was very evident and I gave her a hypodermic. After walking around for a few minutes she said she felt better and went to the bed and laid down. I sat down beside her, took her wrist in my hand to feel her pulse. There was a slight sound as of tearing wet flannel, which the patient also heard and inquired "What is that?" I replied, "I do not know," but there was no time for explanation as her pulse became very tremulous and stopped. She was dead.

At the autopsy the next morning we found the body unrecognizable on account of gas having distended her skin everywhere and completely.

The abdominal cavity was filled with food and fluid, the stomach having a hole, two or three inches, torn in it. I removed the stomach and exhibited it at a meeting of our Pathological Society; it was greatly dilated; the hole was at the greater curvature and the pylorus was scarcely patent, a small lead pencil being passed through it with difficulty. There was no thickening, a contraction due to simple ulceration from which the patient, who was about fifty-five, had suffered for years.

Dr. Ernest Laplace, Philadelphia: There are two other conditions that I would like to draw attention to with reference to the hypertrophic condition about the pylorus and that is that the long-continued existence of these symptoms naturally increases the mechanical irritation of the pylorus and causes a predisposition to cancer. There is a possibility of a carcinomatous condition coming on any time. Symptoms that are present over three or four months should be considered by the medical attendant as those that predispose to cancer and should be turned over to surgical interference as soon as possible.

The second condition is that an acute dilation of the stomach may result. Such a patient, who has gotten used to his ordinary diet and knows how to put up with his hypertrophic condition of the pylorus, may overindulge sometime and the great weight in the stomach at that particular time may be the provoking cause of true dilatation of the stomach that may be fatal very soon.

Finally, it is a fact that medical treatment will not overcome mechanical obstructions which will yield only to surgery, and the sooner the better.

THE DIAGNOSIS AND TREATMENT OF GASTRIC AND DUODENAL ULCERS.

BY S. D. MOLYNEUX, M.D.,
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(Read in the Section on Medicine of the Medical Society of the State of Pennsylvania, Scranton Session, September 25, 1912.)

The factors in the etiology of gastric and duodenal ulcers are so obscure that it is often impossible to find a cause in any given case. The mechanical action of the acid chyme is undoubtedly the determining factor in many cases. This may be due to lowered resistance or to perverted secretion. Ninety per cent. of gastric ulcers are found at the pyloric end of the stomach, and nearly all duodenal ulcers are found where the impact of the chyme against the duodenal wall is greatest, or in the first three inches of the duodenum. Occupations which require constant pressure on the epigastrium seem to predispose to ulcers. This probably explains why it is more frequently found in shoemakers, locksmiths, masons and book-keepers. Excessive eating, drinking or smoking, may be the cause. Hyperchlorhydria may or may not be a cause, but apparently it is a forerunner in some cases, but many cases diagnosed as hyperchlorhydria are cases of ulcer. Some one has said, "Hyperchlorhydria is a medical diagnosis for a surgical condition—gastric or duodenal ulcer." It is undoubtedly true that there are many cases of ulcer that have an excess of acid, yet in some it is normal, deficient, or absent.

There are few diseases whose symptoms appear in such a definite and orderly sequence. In uncomplicated cases a mistake need not be made in diagnosis, and in no other disease is a carefully taken history of such value. In fact, in many cases the diagnosis can be made from the history alone. We owe much to Graham, the pioneer in gastric diagnosis, for the development of the symptomatology of gastric and duodenal ulcers.

The history usually extends over a long period of years. Attacks come more frequently in the spring or fall. It is a disease of early adult life, but may develop in the young or those past mid-life. The nearer the ulcer is to the pylorus, the more definite and clear cut the symptomatology. Ninety-five per cent. are single but they may be multiple, occurring in stomach and duodenum coincidentally. The length of the clinical history is no index to the gravity of the case. Some perforations occur in ulcers that have given no symptoms at all. Twice in the last six months have we found this in our clinic. Malignant degeneration may also occur in ulcers that have never given rise to symptoms. There is no way to determine which ulcer will heal, which will perforate, or which will become malignant. The day is past when acute appendicitis can be diagnosed as inflammation of the bowels, gallstones as acute indigestion, or duodenal ulcer as chronic dyspepsia.

Duodenal ulcers are more frequent than gastric (at least two thirds of the cases, according to Mayo), and are found more frequently in men. Duodenal ulcers rarely become malignant; gastric ulcers, often.

In a typical case there is a history of stomach trouble extending over a long period of years, with intervals of almost entire freedom from symptoms. Early in the disease the appetite remains good, there is little loss of flesh, and the condition yields readily to treatment. Pain, occurring at a certain definite time after eating, is the most positive symptom of ulcer. The heartier the meal, the more prolonged the relief obtained by it. Vomiting or lavage, to remove the acidity, or alkalies to neutralize it, also give absolute relief. During the early attacks the period of relief obtained by these measures is very characteristic and very definite. After many attacks, extending over a number of years, complications develop, the motor efficiency of the stomach is interfered with, and the relief obtained by food is not so lasting nor so complete. Because of this, the appetite may fail, or the fear that food will bring on pain, causes food denial, and flesh and strength are lost. The pain is epigastric and of a dull, gnawing, boring, burning character, not severe. It is often accompanied by acid eructations, nausea, or vomiting. Mouthfuls of the highly acid material may be regurgitated while asleep. In the majority of cases the pain is caused by the contact of the acid chyme on the ulcerated area. The degree of pain depends upon the amount of ulceration, its location, the degree of acidity, and the amount of accompanying pylorospasm. Pain is at its height when the stomach is empty, two to five hours after food, and does not radiate far from the epigastrium. It is not continuous unless complications have developed. Usually during the pain there is gas formation, and it is greatest when pain is at its maximum. Gas formation may also occur when pain is absent, and is then a very valuable diagnostic sign. The more highly acid the stomach contents, the greater the discomfort from gas formation, and the greater the pain. Relief from gas is obtained in the same way as the relief from pain, by food, alkalies, irrigation, or vomiting. Vomiting is not an important diagnostic sign in the early history of ulcer. It is more often a nausea or eructation. When it is present, it is extremely sour and bitter. It gives a short period of relief. Later, however, vomiting becomes a prominent and distressing symptom. It varies as to time and quantity. It may occur immediately after taking food, but is usually from two to five hours later, when gas and pain are greatest. The amount is not large unless there is hypersecretion, dilatation from motor inefficiency, or obstruction.

Hemorrhage in ulcer is not infrequent, but should not be waited for before making a diagnosis. Indeed, many patients never have hemorrhage at any time. The amount of blood varies from minute traces to that in sufficient amount to exsanguinate. Occasionally, hemorrhage by the stomach or bowel is the only symptom, and upon this a diagnosis must be made. Graham says that over ninety per cent. of hemorrhages from ulcers cease spontaneously.

Constipation is an early factor in gastric and duodenal ulcer, and it may occur before pain or gas formation becomes prominent. As the motor power of the stomach and duodenum is diminished, constipation is increased. It usually varies with the periods of attack, the bowels being fairly normal during the intervals. Late in the disease the constipation is aggravated. Failure of nutrition becomes prominent in the late stages, but during the early history the loss is quickly regained during the following intermission.

Analysis of stomach contents varies in different cases. Graham and Guthrie, in their analysis of 250 cases, found free hydrochloric acid below normal in 28, normal in 106, above normal in 103, and absent in 13 cases. They also found blood present in 49 cases, and food remnants in 73 cases of the series. This proves that the test meal is only valuable when taken in connection with the clinical history. Absence of blood or hyperacidity at the time of analysis is no evidence against the presence of an ulcer. Graham sums up by saying, "It is not the chronicity or the periodicity that is peculiar, nor the degree or location of the pain, nor the gas or sour eructations, but the characteristic point is the time the pain appears with its accompanying symptoms of gas, vomiting, sour eructations, its regularity after meals, and the ease by which it is controlled by food alkalies and lavage."

This regularity, day after day, meal after meal, during the period of attack, is not simulated by any other pathological condition. Later, when complications have developed, the symptoms change. Food increases the distress, which may be continuous. Vomiting is less frequent, but large in amount and does not give the relief that it did in the early stages of the disease.

The symptoms of gall-bladder disease and duodenal ulcer in the later stages resemble each other very markedly, and in some cases it is hardly possible to differentiate them. At the time of operation it is not uncommon to find both conditions present. Pain, distress, sour eructations, vomiting, hemorrhage, or jaundice, may be present in both. It is then that a carefully elicited history is of such value, especially of the onset of the trouble. Pain in gallstone disease is usually of sudden onset, and most intense in the pit of the stomach. It may radiate very widely, differing from the pain of ulcer which radiates scarcely at all. The usual direction is to the right costal arch or shoulder region. It is of sudden onset, irregular in occurrence, severe and cutting. It is independent of food, nor is it eased by it. Shock accompanies the attack and relief is obtained only by a natural subsidence or a resort to morphin injections. Chills and fever may be present. Vomiting does not give the relief that it does in ulcer. Gas formation is greater than in ulcer. The attack ends abruptly, with a rapid return to normal. Vomiting is a late symptom in ulcer and an early one in gallstones. Hemorrhage in gallstones is exceedingly rare. Jaundice occurs in about twenty-five per cent. of the cases. Jaundice is present in ulcer only when the area involved is at the opening of the bile ducts. Constipation is less pronounced in gallstones, and nutrition not affected until complications develop. Seventy-five per cent. of the gallstone cases are in women. About the same percentage of ulcers are found in men.

In as much as the Mayos have found that seventy-one per cent. of all resected carcinomas were associated with ulcer, and sixty-eight per cent. of ulcers were associated with carcinoma, it is impossible to tell in every case when malignant degeneration begins. There may be great wasting, cachexia, anorexia, and hemorrhage; and ulcer be the only lesion present. In the presence of cancer, there is usually extreme cachexia, marked distaste for food, loss of strength, pain, vomiting of a large amount of blood, and undigested food. The pain is continuous, of a dull, sickening character. It is not eased by food or alkalies, but is somewhat relieved by lavage or vomiting. Fear of food comes on earlier than in ulcer, and a small amount satisfies. Late in the disease all food is repulsive, nutrition fails, and weakness is pronounced. The skin is dry and wrinkled, wasting marked, and the facies characteristic. Vomiting occurs at irregular times, the vomitus consisting of foul, undigested food, eaten perhaps several days before. A tumor is present in about seventy per cent. of the cases. Free hydrochloric acid is usually absent from the test meal. It is not necessary to apologize for again quoting Graham, who says, "The diagnosis of cancer is extremely difficult in that early stage when surgery, the only means of relief, offers a hope of cure, and when delay is fatal. Ignorance on the part of the physician is unpardonable, neglect almost criminal." The diagnosis should be made in that precancerous condition, ulcer, and surgery advised. We must not wait for the formation of tumor, for, according to statistics, ninety per cent. of stomach tumors are cancers. When an ulcer becomes malignant, the course is short, and the symptoms progressively increase without remissions.

Chronic dyspeptic appendicitis may be mistaken for gastric or duodenal ulcer but, in this condition, food or drink aggravates the pain, vomiting is much less common, and affords little relief. Gas formation is more prominent than in ulcer, and is usually manifested by distention. The appetite is poor and the loss of flesh and strength, variable. There is no regularity as in ulcer, and there is less pain, which is more generally abdominal. Exertion increases the distress. Often the history of previous acute attacks can be ascertained.

The dyspepsia of early tuberculosis can be differentiated by a careful examination of the lungs, observation of the evening temperature, and a microscopic examination of the sputum. Chronic nephritis and anemia are sometimes misleading, but repeated urine examinations and a blood count will lead to the correct diagnosis. The gastric crisis of early tabes can be eliminated by an examination of the reflexes.

Acute perforation is the most serious of the complications that may develop from an ulcer, and when it occurs the patient's life is at once in danger. It is of sudden onset and is manifested by most agonizing pain. Collapse rapidly occurs, with rapid, thready pulse; cold, leaky skin; and short, catchy respirations. The abdomen is rigid, board-like in character, and liver dullness usually disappears. The longer the time after rupture, the more marked these symptoms become, especially the increase in pulse rate. Tenderness usually becomes more marked on the right side, and the area of greatest tenderness may be in the right iliac fossa; hence the frequency of the condition being mistaken for acute appendicitis. The temperature is usually subnormal at first but rises hour by hour as peritonitis supervenes. Chronic perforation is more common than acute. The process is slow, adhesions develop, leaks occur, giving recurring attacks of localized peritonitis. Hemorrhage ceases spontaneously in most of the cases, but death may result from it. It has been estimated by Mayo that more than ninety per cent. of the hemorrhages from the stomach are from ulcers with well-marked ulcer history, and when a single profuse hemorrhage occurs, it is probably not from an ulcer. From the contraction of scars of old ulcers and the formation of adhesions, pyloric obstruction is likely to occur. This causes food retention and subsequent dilatation of the stomach. The appetite fails, gaseous eructations are frequent, vomiting copious, and occurring at irregular intervals.

The treatment is medical in acute ulcers, consisting of rest in bed; liquid diet, limited in quantity; ice to the epigastrium; and alkalies, such as sodium bicarbonate or the heavy oxid of magnesia in sufficient doses to neutralize the acidity. It is of advantage to combine with the magnesia, bismuth subnitrate, for its sedative action, and powdered rhubarb to overcome the accompanying constipation. In the presence of hemorrhage, all nourishment by mouth should be withheld, and rectal feeding instituted. Gastric lavage should never be employed in these cases. Chronic indurated gastric or duodenal ulcer is a surgical condition, and operation should be advised in all cases unless other conditions contraindicate. Operation should be advised in contracted ulcers producing pyloric obstruction. In saddle ulcers and hour-glass contractions, medical treatment will be useless. Food retention indicates surgical interference. It is true that some chronic ulcers heal spontaneously, or through treatment, but with the knowledge that gastric ulcers are a fertile soil for cancer implantation, a surgeon should be consulted. The operation chosen by most leading surgeons is inversion or excision of the ulcer, and posterior gastroenterostomy. If any suspicion of malignancy exists, resection is necessary. Immediate operation is imperative in acute perforations; the longer the delay, the poorer the prognosis.

In ordinary cases the mortality rate with operation is less than five per cent. (Mayo two per cent.) The cure in eighty per cent. of cases is complete; in nearly all others, satisfactory relief is obtained.

Faithfulness in the day of small things will insensibly widen your powers, correct your faculties, and in moments of despondency, comfort may be derived from a knowledge that some of the best work of the profession has come from men whose clinical field was limited but well-tilled. The important thing is to make the lesson of each case tell on your education. The value of experience is not in seeing much, but in seeing wisely.—Osler.

THE EARLY DIAGNOSIS OF CANCER OF THE STOMACH.

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(Read in the Section on Medicine of the Medical Society of the State of Pennsylvania, Scranton Session, September 25, 1912.)

The importance of an early diagnosis of cancer of the stomach is well appreciated by physicians, for only when the condition is recognized in the first stages, before metastasis to other organs takes place, does operative procedure offer possibility of cure. The importance of early diagnosis may be better understood when it is considered that of 805,412 deaths reported in 1910, some 41,000 were a result of carcinoma, of which by far the largest number, 16,500, the primary tumor was in the stomach.[1] In other words forty-two per cent. of fatal cancers originated in this organ, while death from cancer of the female genitalia, the next most frequently involved site, was reported in fifteen per cent. of the cases.

Bearing in mind then the fact that cancer is almost three times more frequent in the stomach than in any other organ, and that it causes almost half of the deaths from cancer, we realize that there is a very real necessity of recognizing, early, a condition so frequent and so fatal yet which is surrounded by more difficulties in diagnosis than in cancer of other parts of the body, certainly than cancer in any of the more customary sites.

In making a diagnosis of carcinoma of the stomach, we have at hand several methods of achieving our result. We must take into consideration not only the history and symptoms subjective and objective, of the patient, but recourse must be had to the laboratory for chemical examinations of the gastric secretions and the urinary and intestinal excretions. Nor must we stop there for in the *x*-ray we have a valuable adjuvant to our armamentarium and in the more recent chemical, physical and serologic tests for cancer, particularly of the stomach, we get valuable assistance. We can depend upon no one of this group of methods for a positive diagnosis of the disease, but, taking them all singly, performing the various tests individually and correlating them, we will find that in most cases, at least, we have a summation of findings that will permit us to come to a definite understanding of the condition with which we are dealing.

With the idea of studying the first subjective symptoms of carcinoma of the stomach, the writer has studied and analyzed 69 cases verified by autopsy or operation, and has reviewed the recent literature on the condition in order to prove, more particularly, the results of the various specific tests for cancer, to obtain opinions of the value of the Röntgen ray, and to discover other advances made in the study of this disease.

Of the 69 cases studied, 53 occurred in men and 16 in women. The average age was fifty-four, the youngest patient being thirty-four and the oldest eighty-two; only three were under forty years of age. These patients presented many and diverse occupations and modes of living, but in this regard no one factor, other than the ages of the several sufferers, appeared to be of importance in the etiology. Moynihan[2] says that 60 per cent. of gastric cancers arise from old ulcers. Mayo-Robson[3] gives the incidence as 59 per cent., and in the Mayos'[4] clinic gastric ulcers are considered to be the causative factor in 71 per cent. of cases.

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[1] Mortality Statistics of 1910, Bulletin 109, Dept. Commerce and Labor.

[2] Moynihan, B. G. A.: Tranct. Chir. Soc., London, 1906, Vol. XXXIX., p. 84.

[3] Mayo-Robson, A. W.: Medico-Chir. Trans., Vol. XC., 1907, p. 232.

[4] Wilson, L. B., and McCarthy, W. C.: *Am. Jour. Med. Sci.*, 1909, Vol. CXXXVIII., p. 846.

In the present series of cases, seven patients gave an unmistakable history of previous gastric ulcer or were actually proved to have one by operation. These latter figures do not bear out the statistics of the authors quoted, but in considering the discrepancy several factors must be taken into account. Of the 69 cases, exclusive of the ulcer cases, 23 gave a history of having suffered from indigestion. For the most part this history went back several years, though in 5 the history covered only one and a half to three years. Therefore, it is reasonable to believe that a certain number of these patients might have had peptic ulcers that were never recognized. It is therefore possible, though not probable, that 30 of the 69 cases had gastric ulcer at some time or other in their lives. Even then the figures show that only 43.5 per cent. could possibly have had ulcer, a percentage still much lower than that given by the several distinguished operators. Another factor that should be considered is that in this series the first symptom noted in 22 cases (32 per cent.) was pain, while in 10 others (15 per cent.) pain was the second symptom, followed by other typical symptoms. In these cases representing 47 per cent. of the total, the question arises as to whether an ulcer, developing more or less acutely, rapidly underwent malignant degeneration, or whether the cancer developed previously and the ulceration was secondary. That this latter possibility may take place is borne out by a recent paper by L. Aschoff,[5] in which it is stated that ulcers revealed by microscopic examination to be malignant are not primary ulcers but on the contrary are secondary to a cancer, often of the scirrhous variety. This seems a very possible explanation of the pain noted in the many cases here described. Ulceration takes place in the mucosa over or about a small primary cancer, whether hard or soft. This in turn gives the symptoms of pain, high acidity, etc., together with the histological picture of an ulcer undergoing secondary malignant degeneration. In reality the condition is one of primary cancer, the cells of which, lying dormant and appearing to be secondary, would presumably sooner or later burst out in riotous and unrestrained growth. A vicious circle may be thus established; the quiescent cancer cells provoke an ulcer; this gives ulcer symptoms for a short time, but as a result of the irritation by the ulcer, the cancer cells are in turn provoked to a more rapid growth and we have a disappearance of the ulcer symptoms and the appearance of symptoms of carcinoma.

This latter possibility would well account for the increase in the percentage of cancers derived from peptic ulcers as given by the several surgical authorities. On the other hand, if those cases beginning with pain several hours after eating, relieved by food and so on, are considered as cases of ulcer, our proportion of cases of cancer engrafted on ulcer is markedly increased.

Turning now from the question of pathogenesis, the symptoms first observed by the patients will be studied. An analysis of these has been made with the idea of getting the first, second and third symptom noted by the patient, subsequent symptoms, classical for the most part, being disregarded except to state briefly that in every case the patient sooner or later noticed a loss of weight and strength (cachexia). The appetite was good in six cases and fair in six others. In the remainder, anorexia was present. Pain was observed by 46 of the patients sometime or other in the course of the disease. The bowels were constipated in most of the cases (57 per cent.); 16 patients had diarrhea, 2 diarrhea alternating with constipation; 10 had regular movements and in 2 cases no notes were made as to the bowel movements. Several of the patients volunteered the statement that they disliked meat. Vomiting at some time during the course of the disease was a symptom in 29 cases (42 per cent.).

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[5] Aschoff, L.: *Deutsch. med. Woch.*, 1912, Vol. XXXVII., p. 492.

The 69 cases may be arbitrarily divided into three groups in regard to the origin of the symptoms, (1) the acute, (2) the subacute, (3) the chronic.

Under Group 1 are classified those cases that began with sudden pain and which seem to have run a rapid course. This group includes 39 per cent. of the cases (27).

Group 2 represents the classical cases in the study of the symptomatology of gastric cancer and includes 22 of the cases (32 per cent.). The typical history is that the patient is over forty years, and has never suffered from indigestion previous to the attack for which he seeks advice. This indigestion appearing in an otherwise healthy individual soon becomes rapidly worse and in a short time he is dead as a result of the insidious growth of the cancer cells.

Group 3 consists of those patients who have suffered from indigestion for years and who can name no definite time of the onset of the digestive disturbance. When the symptoms of this disturbance become worse, or a new set supersedes the old ones, then we may possibly say that malignancy has commenced; 29 per cent. of the cases gave this history (20).

Group 1, roughly, consists of two fifths of all the cases. It is made up of 22 patients whose first complaint was pain and 5 who for a very short time suffered with mild indigestion, which was soon succeeded by the more vigorous symptom of pain.

It is impossible to say from the character and time of occurrence of the pain, that a patient has a cancer of the stomach. The most typical pain is in the epigastrium, coming on several hours after eating and frequently relieved by food. This helps to bear out the contention that the cancer is primary and the ulcer secondary in the sequence of events. The patient develops pain seemingly typical of ulcer, but in a short time symptoms develop showing that malignancy has taken place. Furthermore, it should be borne in mind that only nine per cent. of ulcers of the stomach occur in patients over fifty years of age. Again patients complain of pain immediately after eating, lasting a variable length of time. The character of the pain may be a steady constant ache, or it may be a burning, boring sensation, or, as with three of the patients, using their own words, it is colicky. The pain is located almost uniformly in the epigastrium. One patient, however, described it as in the left hypochondrium, another in the right hypochondrium, and a third in the right lower abdominal quadrant. The pain was sometimes referred toward the back, toward the right shoulder, and toward the lumbar region; as a rule, however, there was no indication of the pain being referred. In a few cases it was relieved by vomiting.

In addition to these 27 cases, pain was either the second or third symptom noted by 14 other patients, a total percentage of 60 per cent. giving this symptom early in the disease. The importance of this one complaint can be fully appreciated when we realize that in at least 60 per cent. of our cases pain was one of the first three symptoms observed by the patient. These figures may, however, be discounted slightly, as pain is a symptom that always makes an impression on the sufferer and therefore patients are more likely to bear it in mind than other symptoms which seem to them to be of minor importance. Even making this allowance, pain is so important in the symptomatology of cancer that its worth should never be underestimated.

Group 2 includes those patients who, previously free from indigestion, are suddenly affected. In the twenty cases beginning this way, vomiting occurred seven times as the initial symptom. Vomiting must indeed be considered as a symptom only somewhat less important than pain. In 43 per cent. of the cases it is found to be one of the three early symptoms. The remaining cases presented variable complaints of a type covered by the term indigestion, and characterized by flatulency, anorexia and so on. Group 2 is the accepted criterion of the symptomatology of gastric carcinoma, and where a history of this kind is obtained from a patient, suspicion is early aroused.

On the other hand in Group 3, representing the chronic form of onset, the disease is frequently not even suspected until too late. In 7 of the 20 cases, no change in the usual feature of indigestion was noted until a progressive loss of weight and strength occurred. The insidious nature of the lesion is apparent when it is realized that at times the disease may have gone so far that nothing can possibly be done for the sufferer. In the remaining 13 cases the apparent commencement of cancer symptoms was characterized either by increased flatulency, diarrhea or constipation, vomiting and hematemesis.

The results of the physical examination in this series as they represent late lesions, need not be discussed in detail. A mass is usually not found until late in the disease. The same may be said of enlarged supraclavicular glands on the left side, of Zugsmith's sign (dullness to light percussion on either side of the sternum in the second interspace) and of the presence of a rectal tumor which occurs, according to Boas,[6] in 20 per cent. of all carcinomata of the stomach. These signs are all the probable result of metastases and therefore useless when attempting to diagnose cancer in its early stages. Their chief importance lies in the aid they give us in determining the advisability of operating. It is of interest to note that C. Kleineberger[7] says that in doubtful cases fluctuation of temperature may indicate gastric cancer.

In the diagnosis the stomach tube is of very particular value. From it we learn, first, the motility of the stomach, and, second, the character of the secretion. Normally the stomach is emptied in six hours. The motor power is practically always diminished in all forms of gastric cancer, hence the frequency of vomiting as a symptom. The stomach tube reveals the motor disturbance by the recovery of food taken some hours before aspirating the fasting stomach. The simplest technic is to lavage the stomach in the morning after an evening meal of some readily recognized food. If portions of the test meal are present in the lavage water, hypomotility is assured. Kemp[8] lays particular stress upon this finding. He finds this disturbance practically always in cancer and in a more severe form than the occasional cases of nonmalignant achylia gastrica in which it is found.

Boas[9] gives 400 c.c. of chlorophyl water on an empty stomach, preferring lavage one half hour afterward. Normally less than 50 c.c. should be recovered. Borgbjärg[10] gives a special test meal (Bourget-Faber) and says that the presence of 2 to 5 c.c. of the meal in the lavage water is suggestive of organic disease of the stomach. While loss of motor power of the stomach is by no means pathognomonic, still its demonstration, particularly if it can be shown to be gradually increasing by repeated tests, is most suggestive. The stomach tube also shows the character of the secretions. The classic findings are a diminution of the total acid and a lack of free hydrochloric acid. That hyperacidity may sometimes be present is a fact that should be especially emphasized. Microscopical study of the test meal may also yield data that may be suggestive, as the presence of red blood cells, excessive numbers of pus cells, or much epithelium. The presence of the Oppler-Boas bacillus and of lactic acid occurs late in the disease, and probably indicates only fermentation.

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[6] Boas, I.: *Deutsch. med. Woch.*, 1911, Vol. XXXVII., p. 2268.

[7] Kleineberger, C.: Quoted by *Jour. A. M. A.*, 1912, Vol. LVIII., p. 1959.

[8] Kemp, S.: *Archiv. f. Verdauungs-krankheiten*, 1912, Vol. XVIII., p. 4.

[9] Boas, I.: *Deutsch. med. Woch.*, 1912, Vol. XXXVIII., p. 453.

[10] Borgbjärg, A.: *Deutsch. med. Woch.*, 1912, Vol. XXXVIII., p. 452.

Examination of the stools show the presence or absence of occult blood. This test is not always positive in cancer, only 65 per cent. of the cases of the present series, in which this was made, showed it. When found, however, it gives a finding of great value, particularly when differentiating cancer from ordinary gastritis, in which it is very rarely found. Occult blood, it should be emphasized, is frequently found early in the disease and Zoeppritz[11] lays particular stress upon this finding as an early index of gastric cancer.

The examination of the urine yields nothing of value except in the case of certain specific tests to be discussed later.

Gastroscopy and *x*-ray examinations are in the hands of the specialists. The applicability of the former procedure may be questioned. As from 65 per cent. to 80 per cent. of all cancers occur in the vicinity of the pylorus, Sherren[12] believes the gastroscope less available than exploratory operation. Rodman[13] also questions the advisability of this procedure, so that exploratory operation should certainly be advised if there is any question or doubt as to the diagnosis.

A study of *x*-ray plates alone of a gastric cancer is useless as a rule. The fluoroscope, used almost routinely by European clinicians, gives findings that are frequently of great value. Röntgenoscopy is enthusiastically endorsed by Haudek[14] and in particular for the study of the motility of the stomach. In cancer, the stomach contents, after the bismuth meal, pass unevenly into the intestines, and more slowly than in the normal stomach. The shadows are also found to be typical in both cancer and ulcer. Fujinami,[15] for the study more particularly of the secretions, uses the fluoroscope with the aid of a heavy and light capsule of bismuth. Lack of secretion with a lessened motor power points strongly to malignant disease.

Pfahler[16] says that the screen and the plate, supplemented by previous careful chemical study of the case, gives valuable aid in the diagnosis of gastric carcinoma. Variations in the course of the food through the stomach, interference with peristaltic action, fixation or displacement of the stomach, an indentation in the stomach wall or modifications in the rate of evacuation of the gastric contents, all point toward carcinoma.

In the diagnosis of cancer in general, many specific tests have been evolved, but most of them have fallen into disuse. The enthusiasm of a discoverer of a cancer reaction is soon dampened by the chilling results of other investigators. Upon the laboratory man falls most of the work of diagnosis in such cases as the technic is too long and tedious for the ordinary practitioner lacking the more complicated laboratory apparatus. Only the difficult reactions seem to be of value. The meiostagmin reaction of Ascoli, first described in 1910, has given splendid results in the hands of some investigators. Certainly the results are sufficiently good to encourage further investigation.[17]

Pinkuss[18] is enthusiastic over the antitrypsin test of Brieger, as the result of 94 per cent. positive reactions in certain cancer.

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[11] Zoeppritz, H.: *Mitt. a. d. Grenz. d. Med. u. Chir.*, Vol. XXIV., p 503.

[12] Sherren, J.: *Brit Med. Jour.*, 1911, Vol. I., p. 1457.

[13] Rodman, W. L.: Pa. Med. Jour., June, 1912.

[14] Haudek, M.: *Weiner. klin. Woch.*, Vol. XXV., p. 67.

[15] Fujinami, K.: *Deutsch. med. Woch.*, Vol. XXXVIII., 1912, p. 496.

[16] Pfahler, G. E.: *Jour. A. M. A.*, 1909, Vol, LII., p. 853.

[17] E. P. Bernstein and Irving Semons, (*American Jour. Med. Sci.*, Dec., 1911, Vol. CXLII., No. 6, p. 882) have reviewed carefully the work done in this test up to the latter part of 1911.

[18] Pinkuss, A.: *Berl. klin. Woch.*, 1910, Vol. XLVII., p. 2342.

The Wassermann reaction has been tried by Caan[19] who obtained positive findings in 41 per cent. of the cancer cases examined.

The methylene blue test of Fahs and Lentz[20] is extremely simple but seems to have yielded good results only in the originator's hands. It apparently depends upon fermentation in the urine. Verbrycke[21] claims it is of no value and other investigators have not been successful in its use.[22]

The hemolytic skin test is one of the reactions that seems to have some value. Gorham and Lesser[23] have reviewed some of the literature on the subject and have also employed the reaction, finding it of some practical use. Grafe[24] found it negative in thirty-two healthy persons and one hundred and eleven sick of diseases other than cancers. It was negative in thirty-three stomach cases other than ulcer or cancer; negative in thirty-three out of thirty-five gastric ulcer cases; positive in nineteen out of twenty known, in two presumably, and in three suspected cancer cases.

Salkowski[25] has obtained suggestive results with a method by which the nitrogen of the urine is precipitated by the salts of the heavy metals.

The various specific tests for cancer of the stomach have also given many diverse results. Salomon's test was at one time extensively employed but its value has been discredited by numerous observers, notably Goodman.[26]

More recently the glycyltryptophan test of Neubauer and Fisher[27] has been enthusiastically received and for the most part has been accepted as a valuable, but not pathognomonic, aid in the diagnosis of cancer of the stomach. The test depends upon the fact that glycyltryptophan is not split normally by the gastric juice. A later paper by the same authors[28] gives additional statistics and reports the finding of a positive reaction in 84 per cent. of known cancers and in 12 per cent. of diseases of the stomach other than cancer.

Hall and Scott Williamson[29] using the glycyltryptophan test obtained positive results in 6 cases of cancer of the stomach and in no other cases. Negative reaction was obtained in 19 cases, 3 of which were cancer. Lyle and Kober[30] secured a reaction in 6 cases of cancer of the stomach and none in 7 individuals having other gastric conditions. Levy[31] found only 50 per cent. of known cancer cases to give positive results. In employing this test Friedman[32] secured results that were most suggestive.[33] On the other hand Sanford and Rozenbloom,[34] using glycyltryptophan and tryptophan, conclude that the former is not necessary for the detection of the latter which in turn is unreliable.

Weinstein[35] modified the test to the extent of simply testing the filtered stomach contents for trytophan with bromin water before and after incubation.

Austin[36] using Weinstein's modification of the tryptophan test found twenty negative reactions, including five achylias, and two positive ones.

Other observers have tested the urine for the amount of pepsin. Ellinger and

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[19] Caan, A.: *Münch. med. Woch.*, 1911, Vol. LVIII., p. 740.

[20] Fahs and Lentz: *Jour. A. M. A.*, 1911, Vol. LVI., p. 1882.

[21] Verbrycke, J. R., Jr.: *Med. Rec.*, 1911, Vol. LXXX., p. 876.

[22] Personal communication.

[23] Gorham, S. W., and Lesser, H.: *Am. Jour. Med. Sci.*, 1912, Vol. CXLIV., p. 103.

[24] Grafe, E.: *Münch. med. Woch.*, 1910, Vol. LVII., p. 1977.

[25] Salkowski, E.: *Berl. klin. Woch.*, 1910, Vol. XLVII., p. 2297.

[26] Goodman, E. H.: *University of Pa. Med. Bull.*, May, 1909.

[27] Neubauer, O., and Fisher, H.: *Deutsch. Arch. f. klin. Med.*, 1909, Vol. XCVII., p. 499.

[28] Neubauer, O., and Fisher, H.: *Münch. med. Woch.*, 1911, Vol. LVII., p. 674.

[29] Hall, I. W. and Williamson, C. Scott: *Lancet*, 1911, Vol. I., p. 731.

[30] Lyle, W. G., and Kober, P. A.: *N. Y. Med. Jour.*, 1910, Vol. XCI., p. 1151.

[31] Levy, A.: *Berl. klin. Woch.*, 1911, Vol. XLVIII., p. 119.

[32] Friedman, G. A.: *Archiv. of Diag.*, 1911, Vol. IV., p. 139.

[33] For simplified technic see F. Smithies, *Jour. A. M. A.*, 1912, Vol. LVIII., p. 1008.

[34] Sanford, C. H., and Rozenbloom, J.: *Archiv. Int. Med.*, 1912, Vol. IX., p. 445.

[35] Weinstein, J. W.: *Jour. A. M. A.*, 1911, Vol. LVII., p. 1420.

[36] Austin, A. E.: *Med. Rec.*, 1911, Vol. LXXX., p. 371.

Scholz,[37] for example, find the urine of patients suffering with cancer of the stomach contains much pepsin, while the gastric contents contain but little. Iakeda[38] testing the urine with edestin finds little if any pepsin in the urine of individuals with gastric carcinoma.

Lastly, allergy has been employed by Livierato,[39] who injects 0.05 c.c. of gastric juice from cancer patients into animals sensitized with extract of mammary cancer. In regard to the various specific tests the objection might be raised, and properly so, that the reactions do not occur until late in the disease.

Summary: (1) In this study of 69 cases of cancer of the stomach, 39 per cent. had an acute, 32 per cent. a subacute,and 29 per cent. a chronic onset. (2) The acute onset was characterized by early pain in every case. (3) Pain was one of the first three symptoms in 60 per cent. of all cases. Vomiting was an early symptom in 43 per cent. of the patients. (4) Newer methods of *x*-ray and laboratory examinations have been proved of value in arriving at a diagnosis of cancer of the stomach.

Conclusion. Stress should be laid on the fact that early diagnosis of cancer of the stomach depends upon an extremely careful study of the symptomatology of the case with the employment of not one, but of the many methods which may aid in arriving at that diagnosis.

SURGICAL ASPECTS OF EPIGASTRIC PAIN.

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(Read in the Section on Medicine of the Medical Society of the State of Pennsylvania, Scranton Session, September 25, 1912.)

The surgical aspect of epigastric pain offers such a broad field for discussion that it will be impossible in the time allotted to this paper to treat of it in more than the most general manner. Much of the ground is of necessity covered in the other papers arranged for this symposium. There is not such a wide difference between the medical and surgical aspects of the subject, for both physician and surgeon are working for a common end, viz., to relieve the patient, and in this particular region this frequently necessitates a surgical consultation and operative intervention. Moreover, the surgeon is frequently his own diagnostician, as is both proper and right, and should avail himself of all those means of diagnosis which the internist employs. But it is also true that physicians and surgeons often differ in their mental processes and methods of arriving at conclusions. It is another case where "the ways they are many and the end it is one."

Inviting as the subject is to surgeon and diagnostician alike, it must suffice to merely state a few general and well-known principles, coupled with some observations on certain special aspects of the subject which have impressed themselves more or less strongly on the reader's mind as a result of his own experience.

Epigastric pain is, of course, a symptom of prime importance in a very large number of grave abdominal lesions. It is often the first symptom that the patient observes, and perhaps that which brings him most often to the physician, and certainly it is the one from which he clamors most loudly for relief. It must therefore always remain a subject for careful study and investigation in eliciting the history of the case; for by its nature and the time of onset, its exact location and favorite direction, by its periodicity, duration, recurrence, relationship to the taking of food, whether relieved or increased thereby, and other characteristics, a great deal of the most valuable information can be obtained, and the trail leading to a correct diagnosis frequently uncovered. Given a patient of sufficiently mature age and of average intellectuality, the above mentioned data can usually be obtained and a degree of information furnished in which the personal equation of the physician is eliminated, and in which the chances of error are no greater, if as great, as in that obtained by physical examination or laboratory findings. Not that we would seem to belittle the value of any and every avenue of investigation which offers itself to us, or underestimate for one moment the necessity for following each of them up in the most ardent manner; but we submit that in a proper sifting of all the evidence gathered by historian, physical examiner and laboratory worker, the true art of diagnosis lies.

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[37] Ellinger, A., and Scholz, H.: *Deutsch. Arch. f. klin Med.*, 1910, Vol. XCIX., p. 221.

[38] Iakeda: *Deutsch. Archiv. f. klin. Med.*, Vol. XXXVIII., p. 1807.

[39] Livierato, S., Fiorma Medica, 1911, Vol. XXVII., p. 1121.

In considering this evidence from its surgical aspect, we may discuss the symptom of epigastric pain from three standpoints; viz., as an evidence of the existence and the general location of the morbid process causing it; secondly, as an aid to differential diagnosis; and, thirdly, as an indication for surgical intervention.

We were much impressed in our student days by a sufficiently trite remark, made by one of our teachers, that it was necessary for a surgeon, when striving to make a diagnosis, to have in mind all of the lesions which could be found in the region under investigation, and then by careful study and observation to discover the one actually present. Whether this was the inductive or deductive method of study did not at that time enter into our calculations. In the case of epigastric pain the possible exciting lesions unfortunately include the majority of the acute and chronic intra-abdominal visceral disorders which the surgeon is called upon to treat, with a few extraabdominal and nonsurgical lesions thrown in for good measure, and to make the task a little more interesting.

The preceding papers in this symposium have well covered the field, as far as the upper abdominal region itself is concerned, and the stomach, gall bladder and pancreas have been well and ably dealt with. They are the organs to which one's attention would most quickly turn in the presence of epigastric pain and discomfort; but we submit at the risk of reiteration that the commonest cause of epigastric pain, and that which furnishes the surgeon the readiest and most frequently grasped opportunity for invading the peritoneum, is not located in the upper abdomen but in the right iliac fossa, namely the appendix. Such epigastric pain may be, and indeed usually is, a brief initial symptom of acute catarrhal or perforative appendicitis, or may be the result of frequently recurring hyperchlorhydria and pylorospasm in chronic appendicitis, or follow from adhesions, the result of chronic peritoneal infection of the same origin. Every surgeon's case-book teems with such instances. So, too, we must remember that in addition to the many affections of the above-mentioned upper abdominal organs, perigastric, periduodenal, and pericolonic adhesions of other origin, with acute and chronic intestinal obstructions, subphrenic abscess, and other rare inflammatory or malignant diseases, may cause a response in the same region. Lead poisoning must be borne in mind, and the referred pain in tuberculous spondylitis; while among the medical lesions, extraabdominal in origin, which may give rise to marked epigastric pain, it suffices to mention two of the most important, viz., the referred pain in pleurisy and pneumonia, so frequently emphasized but never to be forgotten, and the lightning-pains and gastric crises of locomotor ataxia, which have too often ere this led to what Mayo has styled "surgical decorations" in the shape of needless abdominal scars on unrelieved sufferers.

We have already dwelt upon the relative importance of pain, the symptom. To what extent does pain, considered by itself, warrant a positive diagnosis? This may seem an unnecessary and unwise question, for it would be a vicious habit of mind that led one to depend entirely upon one symptom, subjective or objective, to the exclusion of others. But in some cases pain overweighs in importance and is less likely to erroneous interpretation than any other symptom, considered of course, in all its features, as already enumerated. Let us take this most conspicuous example: Of duodenal ulcer, says Moynihan, "These symptoms, so perfectly characteristic of duodenal ulcer, may be present for years without producing any physical signs. It is therefore not necessary to the attaining of an accurate diagnosis that any examination of the patient be made; the anamnesis is everything; physical examination is relatively nothing," a statement which has been, as he himself says, severely criticized, but we personally ask no better authority. The steadily recurring hunger pain of duodenal ulcer stands in sharp contrast to the irregular and agonizing attacks of hepatic colic, also themselves almost diagnostic, to the steady gnawing misery of gastric cancer and to the so-called dyspeptic attacks of chronic appendicitis. It is a much more valuable aid to diagnosis in this instance than is the presence of hyperchlorhydria, for example, or the absence of the Oppler-Boas bacillus.

We will not reiterate what has been said concerning the differential diagnosis of duodenal and gastric ulcer, or dwell further upon the separation of the other lesions already described. That ground has been fully covered. We can not forbear warning against laying too much stress upon the exact location of the site of the pain in relation to the median line as an indication that the disease is in one or another portion of the same organ; as, for instance, in diagnosing between gastric ulcers in the cardiac or pyloric regions, or between these sites. There are too many exceptions to the general rule. We would mention in this connection that there are two fairly common and painful disorders in this region which we have more than once seen confused with each other, namely, gallstones on the one hand, and renal colic or kidney pain, due to movable kidney, calculus, or infection, on the other. At first blush this would seem an easy problem for the resident physician to solve, and he probably would himself feel much at home with such a diagnostic problem. It is dismissed with a few words by some authorities, but having seen one of the most finished diagnosticians in error in one or two instances, we are humbly led to express our opinion that the differential diagnosis of these conditions is not always easy, and the difficulty of distinguishing between them must therefore be kept in mind. In our experience the gall bladder has usually been the erring member, and we believe should be investigated first in cases of reasonable doubt, unless the kidney indications are exceedingly well defined.

In subphrenic abscess we still find a fruitful field for study. While much light has been thrown on this dark subject in recent years, notably by the lamented Barnard in England, and George G. Ross in this country, we have reason to believe that many cases still go to the grave undiagnosticated and unrelieved. To what extent can pain as a symptom aid us? Pain, as Barnard pointed out, is most often referred in the beginning to the situation where the abscess afterward forms. Hence, in perforations of the stomach and duodenum resulting in subphrenic abscess (and this was a primary cause in two of the nine cases which it has been our fortune to observe), pain would probably be epigastric in location. In these cases it is of sudden and severe character, while in the cases which are of slow development, as in some of those following appendicitis (and these are the commonest of all), it may be of a dull aching character, or practically entirely absent, as we have ourselves observed. Aside from the perforative cases, the kind of pain which we have most frequently observed in subphrenic abcsess has been characteristic of a secondary pleurisy, which in one case warranted the name by its location, and agonizing persistency of "diaphragmatic pleurisy," which, by the way, as a primary condition and clinical entity is almost as much of a myth as dyspepsia or hyperchlorhydria.

It remains to consider pain as a cause for surgical intervention. The persistent presence or steady increase of pain in either acute or chronic lesions would seem to be a fairly definite indication for relief measures, both to save the patient from further suffering and to prevent the infliction of irreparable damage from the continuation of the morbid process. In no acute lesion is this so well exhibited as in those cases where the general peritoneal cavity is flooded through an unconfined perforation of a gastric or duodenal ulcer. When such an accident occurs the patient is prostrated, almost as if by a bullet. One of our patients was smitten down on his way home, a few hours after the passage of a stomach tube, and he finished the journey in a patrol wagon. Moynihan mentions an Oxford professor who actually died in the street from the terrible shock of this accident. In these cases there is no need of urging the necessity of immediate operation. It stands self-apparent. In other cases where the leakage is more gradual, and the case is seen at a later period, perhaps many hours after perforation, appendicitis may be well simulated, as a result of extension of the infection by gravity to the right iliac region, as in two of onr own cases. In any event, the indications for operation are about as well defined as could be imagined. But in the majority of instances the lesson is less forcibly driven home. How often does one see patients dragging on for years with chronic lesions of the stomach and gall bladder, with the storm signals of pain constantly flying. When the patient is finally operated upon, we find aggravated and, it may be, incurable lesions of these organs, due to long continuation of pathological processes, now well understood, and which we should have long before been asked to remedy. But we are sinners all!

There is another rather unusual accident which might be mentioned here in connection with the surgical indications of pain, namely, perforation of the gall bladder. We have twice operated on cases of perforation of this organ into the free peritoneal cavity, and in a recent article McWilliams has presented a study of 108 similar cases. Free perforations of the gall bladder occur either in the presence or absence of stones as a result of overdistention and rupture, ulceration and perforation, and gangrene, and the escaping contents may be mildly infectious or most virulent in their bacterial content. Pain is always the first symptom. When a cholecystitis is already present the pain changes in character and becomes acute and generalized. It may come on out of a clear sky and simulate gastric ulcer. In our cases we were impressed by the fact that one should not put off operating too long in the presence of intense or continuing pain, in cholecystitis or gallstone colic; but, as Körte emphasizes and McWilliams agrees, should hold oneself in readiness to relieve an overdistended and painful gall bladder, even in the presence of marked infection, lest perforation occur and take one unawares.

Finally, it may be remarked that, after this very incomplete review, we would again emphasize that we have in epigastric pain a symptom which, like the signals of distress sent up by shipwrecked sailors, is at the same time the signal gun which calls for help and the rocket or flare light which guides the way for the rescuing crew.

THE CONSIDERATION OF A FEW POINTS IN VISCERAL PTOSIS.

BY W. S. NEWCOMET, M.D.,
Philadelphia.

(Read in the Section on Medicine of the Medical Society of the State of Pennsylvania, Scranton Session, September 25, 1912.)

There is not a field in medicine where the Röntgen ray has been of more value than in the study of normal and abnormal conditions existing within the abdomen. In the latter instance where pain exists with its train of more or less confused symptoms that are so often misleading even with our most improved laboratory methods of exact diagnosis a careful röntgenographic study of the case will often shed light, and clear a mystery quite unsuspected. Not only is this true of the acute cases but also in the more chronic types, especially those so liable to be stamped as neurasthenics, and often even as malingerers; this too for the simple reason that our ordinary means of diagnosis fail to demonstrate some exact lesion or where the malady is believed to be entirely functionable. In a number of instances patients supposed to have suffered from appendicitis have been found to be the victims of some trouble quite foreign to that organ, and on two occasions, where in one the cause was a stone in the kidney and in the other a stone in the ureter, had either been subjected to a radiographic examination, two large and easily discovered stones would have been found and the patient spared at least one operation. On the other hand it is quite common to some disturbances within the digestive tract to produce urinary symptoms. It might be said, therefore that in cases where we have had an operation upon the abdomen with no relief before a second is undertaken the condition should be studied very carefully with the *x*-ray. However, before our attention is given to the abnormal, it might be advisable to review some points that under normal conditions are not clearly understood.

Many physicians and surgeons when shown a radiograph, often ask "What is normal?" "How should it be?" The first thing that must be understood, is that textbook topographical anatomy charts and radiographs have very little in common, and must not be confused, and because the colon and stomach will not stay where, according to rule they should be, they must not necessarily be judged abnormal. If radiology has accomplished no other point it has proved that our internal organs may occupy a different position at different times which to the anatomist often seems quite incredible. This fact may be easily illustrated by calling attention to the different appearances of a number of faces. Compare the size, position and relation to each other of the nose, eyes, ears and mouth; a large mouth or nose may be perfectly normal, while on the other hand it may be due to disease, and here too conditions normal and abnormal are not likely to be confused. It is also easy to recall the variation in the large blood vessels. Then, too, the anatomical chart usually gives the size and position of these organs under more or less abnormal conditions brought about by *rigor mortis* and the fact that while this process is going on the body is usually in the recumbent position. Therefore, if it is desired to know the position and size of the organs in life under normal conditions, they must be so studied, noting their normal variations compared with this same condition in disease. For instance, if we study a stomach with some malignant invasion it will be found that it apparently assnmes a different position, and not only is that position altered but its peristaltic movements are also changed. The condition appears to be due largely to a gastric spasm, and strange as it may be it requires very little irritation to produce it. Even in the normal stomach, pressure from without will cause a quite marked spasm, but usually it is rather transient, and this explains, to a great extent, the number of hour-glass stomachs that have been observed, while those due to structural change are comparatively rare.

The ptosed condition of the abdominal organs is responsible for complex and irritating symptoms. This is due to the fact that where this condition exists there is generally a loss of tone of all the structures as well as those that seem to be most involved; in other words there is a general atonic condition. The most common of these is a lowering of the stomach known as gastroptosis. The use of this term has given rise to considerable controversy and some contend that it is in reality a pyloroptosis, the argument being that the upper end of the stomach is fixed by the esophagus and can not descend. This point of view may also be advanced in regard to the use of the word pyloroptosis, as the pyloric end, to some extent, is fixed by the duodenum. However, there may be some stretching of the supporting tissue at this point.

Properly speaking, the exact condition that usually exists is a gastrectasis for there is usually a stretching of the whole wall of the stomach, thus allowing the lower middle third and lower upper third to be displaced downward. This would seem to be the most rational explanation and therefore the best reason for the adoption of the last term.

In displacement of the colon downward the condition is not the same, for this organ may be displaced in that manner without enlargement or stretching, and furthermore, when it is so displaced may produce a greater amount of gastric disturbance than might be expected, the explanation being the dragging upon the stomach by the weight of the loaded colon. Where a ptosed condition of the viscera exists it should be corrected, for it is easy to account for the distress that follows, where a sac, often with poor muscular tone, is expected to lift the mass of partly digested food and cause it to be placed in proper position at the proper time for further absorption or digestion; it is not hard to imagine the relief that follows by a properly fitted band or even by some operative procedure in selected cases. To differentiate the cause of this pain or distress in the abdomen a point worth remembering is that if the cause be due to ptosis, and the lower abdomen is gently supported by both hands pressing the organs upward, a great degree of comfort is given; while on the other hand if it is inflammatory, the distress or pain is increased by this pressure.

Ptosis may be the cause of a delayed passage of food through the various portions of the digestive tract, but it must be remembered that spasm may also enter as a factor and this may be the explanation of the position that the stomach assumes in some malignant conditions, as has been pointed out by others, the shadow being drawn upwards and to the right. This seems to occur in early disease and no doubt in the future will be a very valuable sign. It seems strange that this has not attracted attention earlier and it may be pointed out that in case of cancer of the breast retraction is often the first sign to be observed, and it need not be sited here as to its reliability.

If the stomach is dilated and ptosed or, on the contrary, where it is bound down by adhesive bands, the symptoms may be confused with cöexisting disease of the intestine; or, as has been previously stated, intestinal disease may give rise to gastric symptoms, and even more confusion exists when they give rise to symptoms referred to the urinary tract. By the study of these organs with the fluoroscope or a number of radiographs made at different times, after the test meal, it is possible to exactly locate the lesion. However, one point that is often overlooked in this examination is the amount of gastric dilatation. The usual test meal given for the purpose of making this examination does not demonstrate the extent that this organ is stretched under ordinary circumstances, and therefore the deductions from this test meal are not in accord with its labors. To show the amount of dilatation that is natural to a given stomach is easily done by the following procedure. Pass a stomach tube and gently inflate with air until the patient has a sensation of fullness of a full meal but not enough to produce distress, then examine and it is remarkable to see the amount of dilatation that some will tolerate without the least discomfort. The normal stomach on the other hand permits comparatively very little dilatation and promptly rejects the inflated air. By the same means it is possible to outline the colon but great care must be used in this procedure, as the patient's sensations in this portion of the digestive tract are not so reliable as in the stomach, besides there is less tendency to expel the air. In displacement of the intestines the cause of the distress is usually due to kinks, which are most likely to occur in the small bowel at the lower end of the duodenum or the lower end of the ileum, in the large bowel at either the hepatic or splenic flexure.

Symptoms of a similar nature may be produced by constricting bands, inflammatory or otherwise, but it is needless to call attention to the fact that the radiographic picture is somewhat different. Cecum mobile would be very easily overlooked, for at the time the radiograph was made it might be in a perfectly normal position; but if this condition is suspected the patient must be placed in several different positions, as upon the left side, or with the hips well elevated and then compare with the usual plate of that given position.

The complex symptoms produced by these disorders of the intestinal tract just mentioned may be acute and most alarming; while on the other hand they may be slight, but sufficient to produce a continued irritation of the nervous system. But the one point that must be always before us is that in these cases very little is to be accomplished by medication; the relief must be obtained by some mechanical means; and, where this for some reason is not feasible, some surgical procedure may be substituted to restore the organs to as near the normal position as is possible. Most of us can recall patients suffering from most confused symptoms resulting from a concealed hernia that has escaped our observation, and have these symptoms immediately disappear upon the replacement of the hernia and the proper support being given by a truss or an operation. Lastly, we must remember that ptosis of the different organs in itself, is not a matter to excite our apprehension. It is, however, the kinks that cause obstructions, the dragging upon the omentum and a long train of such secondary conditions that often arise from it. For their relief we restore by various procedures the abdominal contents to as near the normal as is possible, but it must not be forgotten that many of these supposed supports used by our patients with visceral ptosis fail absolutely in their purpose and, in fact, sometimes really do harm. Therefore, after whatever means has been employed, these cases should be studied further to ascertain the amount of replacement and the benefit they derive, and by so following them we will have fewer failures in these most annoying and persistent cases.

DISCUSSION.

ON PAPERS OF DRS. MOLYNEUX, MUSSER, SAILER, JOPSON AND NEWCOMET.

Dr. William H. Corrigan, Wilkes-Barre: Every discussion should begin with a definition. The positive side of the question of pain in the upper abdomen has been so ably presented in the papers that little can be added by me except to emphasize the diagnostic significance of pain as viewed from the negative standpoint. "Tell me what is the matter with a man and I will know what to do and I can do it." These are the words of a celebrated American surgeon. The question is, Wherein is improvement in diagnosis to be made? We believe that the answer is in a better understanding of physiology and a more thorough application of its principles. As has been said by the essayist, reflexes from the chest, the heart, or appendix, may cause severe pain in the epigastrium and yet no lesion may exist there. *Per contra*, carcinoma may exist in the stomach without pain. A lesion may exist in a silent area without giving rise to pain. So it is with the so-called dormant ulcer and innocent gallstones. The phenomena of perverted physiological processes are pathological phenomena and precede perception of pain. It is upon the recognition of these early phenomena due to the disturbance of physiological function that the diagnosis of the lesion is to be made regardless of pain. What, then, is the final disposition of the question? Wherein can we approach the ideal in diagnosis of epigastric pain? First, comprehension of the normal physiological processes in order that the abnormal may be appreciated; second, a mental picture of the pathological lesion whose nature and location would logically explain the ensemble of the symptoms. Epigastric pain is not a constant concomitant of a pathological lesion. It is an accident, contingent upon variable conditions and not indicative of the extent nor of the danger, nor indeed of the existence of pathological lesions.

A word of caution to the gastric surgeons: One American surgeon has undone sixty-three gastroenterostomies, including eleven of his own. While Nature is tolerant, she will resent the transgression of her laws. The penalty for the violation of principle is failure. To make success certain surgery must conform to natural law, for surgery is mechanical, whereas physiology is philosophical and mechanics is subservient to philosophy. Knowledge should precede action and light the way. To do is to know; to succeed is to understand. The better the physiologist, the better the diagnostician, the better the surgeon.

Dr. Edwin Zugsmith, Pittsburgh: Epigastric pain is an extremely important symptom, both from the standpoint of the patient whom it brings to a recognition of the existence of pathological conditions and to the doctor because it leads him very often to make a correct diagnosis as to the patient's condition. Epigastric pain is of value to the physician, not because it is a pain, but because of the variations in the intensity and continuity of the pain. It has also various associations particularly of tenderness and its direction of transmission as well as certain minor relationships like jaundice and altered white blood count, feces, and stomach contents, etc. Tenderness as a rule corresponds to the site of the trouble. In gall-bladder troubles we usually find tenderness over the gall bladder; in appendicitis over the appendix, etc. As pointed out by Boas, the posterior points of tenderness in gastric and duodenal ulcer and in gall bladder troubles are of equal importance to those found over the seat of the trouble.

Now I want to say a word in regard to the diagnosis of gastric ulcer basing the opinion upon the regularity of the onset of pain after meals. While it is true that gastric and duodenal ulcer do have this symptom, there is a question whether they are the only conditions that do have this symptom. I believe not. The one who depends upon this symptom for the diagnosis of ulcer will be led astray because many cases of gall-bladder disease and chronic appendicitis as well as adhesions do give rise to pain with regular onset after meals. I think that the point of differentiation lies in the intensity of the pain. The pain of ulcer is more severe after eating than the corresponding pain connected with gall-bladder disease or appendicitis. Gall-bladder pains are very deceptive. They are not always located in the epigastrium. They are often in the left iliac region and are sometimes not accompanied with tenderness. We need a little better test for the diagnosis of pancreatic disturbance. It is hardly conceivable, with disease in the gall bladder and liver so common as experienced, that the pancreas should escape, since both organs use the same excretory duct. There is the difference that there is no reservoir for the pancreas as there is for the liver, which reservoir in the case of the liver gives rise to most of the trouble. In appendicitis the tenderness that comes from a sudden relief of pressure is just as important as tenderness which results from a direct pressure.

One of the most important causes of epigastric pain is the existence of adhesions. Adhesions are more common than before we had abdominal surgery. The whole abdominal contents may be matted together by adhesions and yet we have no symptoms. It is only when the adhesions are attached to the parietal peritoneum or are arranged in some such way that they cause complete or partial obstruction of a bowel or duct that we have symptoms. These symptoms are worse in certain positions. There are some cases in which the pain will disappear when the patient lies down. They are usually accompanied by tenderness, and, as I mentioned before, their occurrence is very common. I have seen recently several cases in which adhesions following operations required secondary operations for relief. In one case, that of Mrs. F., the symptoms were a duplication of the typical symptoms we have heard here this afternoon of ulcer. She regularly had pain after meals, worse after certain foods. Exploratory incision showed an adhesion three inches long and as thick as a lead pencil at the end of the cecum while the stomach and duodenum were normal. A second case was that of a woman who after operation developed pain in the epigastric region after eating, with nausea. These symptoms would disappear immediately on lying down. Operation showed a chronic appendicitis with adhesions extending from the pylorus to the gall bladder.

There are certain other important conditions causing epigastric pain not all of which were pointed out to-day. Important among these are the bowel inflammations, especially the chronic inflammations and those not involving the lower part of the bowel and therefore not accompanied by diarrhea.

Gynecic troubles sometimes give rise to epigastric pain and can be eliminated only by operation.

I do not believe that ulcer is dependent upon hyperacidity. If it were I think we should find the whole gastric membrane eaten away and nothing but an ulcer over the whole stomach. I believe that the only thing that will account for ulcer in the stomach and duodenum are conditions connected with the blood and blood vessels. I believe the chlorotic ulcer of young girls is an ulcer dependent upon blood changes. I believe an ulcer later in life is an ulcer dependent upon vessel changes. The ulcer is not simply a surgical condition. There are cases known to me in which gastroenterostomy was done with resection, and subsequent hemorrhage showed reulceration. Surgery is not the final word in gastric ulcer at present, nor will it be for some time to come.

I do not recall in my experience many cases in which ulcer has developed carcinoma. Neither can I recall in my clinical experience a single case of carcinoma which had an ulcer history. I do not know where pathologists get their findings but I do not believe they can differentiate carcinoma from other findings with precision. I think there are other things that resemble carcinoma.

As to abdominal surgery the incision should invariably be large, large enough to permit of examination of all the organs that commonly give rise to abdominal pain.

Dr. W. E. Robertson, Philadelphia: I would like to confine myself particularly to the early diagnosis of carcinoma and to the recognition of visceral ptosis. Some years ago I tried various skin reactions, using proteins, thinking that the skin might be sensitized, and also, after filtration, using the stomach contents in the skin reactions. These experiments were all negative. After studying many microscopic sections of carcinomas, the fact struck me that there was always an accumulation of leukocytes near the periphery, even in those areas which were not distinctly ulcerated. This naturally led to the thought that possibly I might find a number of pus cells in the stomach contents. I then gave a test meal, lifted it, washed the stomach out with salt solution and examined the washed stomach contents microscopically, and in all instances I found a greater or less number of pus cells. The criticism may be made that this occurs only when the carcinoma is already ulcerated. I was able to disprove this, in one case absolutely. Five years ago on September 27 I had a patient operated upon, the diagnosis of carcinoma having been made almost exclusively on the finding of pus cells in the stomach contents. There were no obstructive symptoms other than vomiting, and, as this had occurred in cycles, there was no definite evidence of retention. Operation revealed a comparatively small growth, nonulcerative, on the lesser curvature, and a partial gastrectomy was performed. The woman is still living. Microscopic examination showed it to be a nonulcerating scirrhus, and there were numerous leukocytes in the peripheral portion.

This method I have been carrying out since with uniform satisfaction. When ulceration has taken place, you can wash the stomach the second, and occasionally the third time, with salt solution of course, and you will find pus cells in each of the washings. About two or three years ago I saw a reference to this same thing in Cohnheim's little book, "Krankheiten des Verdauungskanals," though I had previously found it of tremendous clinical value. Reference has been made to positive Wassermann reaction in certain gastric cases. I believe that a positive Wassermann means that at sometime or other the patient has had syphilis. It is possible that one may occasionally meet with a slight reaction, plus minus or even a one plus, in cases believed to be absolutely nonspecific, but where the reaction is pronounced, I believe syphilis alone is capable of bringing this about.

In visceral ptosis I think the physician is often a little too forceful in making abdominal palpation. He can learn a lesson from the surgeon who often practices the most delicate form of palpation. Likewise, more superficial percussion should be employed. This, with the use of a tuning fork and a double stethoscope, makes it possible to outline the solid viscera with ease, and of the hollow viscera, the lower margin of the stomach can be readily made out, and indeed, the whole organ if it be much ptosed. This, I think, is very important because this type of case is frequently dismissed as a neurasthenic, until the patient really becomes confirmed in the invalidism. Visceral ptosis, I believe, is very much more common than is usually believed, both the hereditary form, in patients possessing the long, narrow type of chest with an acute intercostal angle, though one also sees many acquired forms, especially in women after repeated childbirths or after some exhausting disease with relaxation of the muscles.

I would like to ask Dr. Sailer what his experience has been with respect to abdominal pain as an early symptom of some cases of pulmonary tuberculosis. Its significance I am not able to explain, but the fact remains that in certain cases that ultimately develop frank tuberculosis, epigastric pain has been an early sign. It is often most severe and suggests gastric or gall bladder disease. Indeed, I have recently seen two patients who have had their gall bladders drained. No improvement followed. Later they developed typical pulmonary tuberculosis.

Dr. J. Torrance Rugh, Philadelphia: At the Cambridge Springs Session I read a paper on "The Mechanical Support in Cases of Visceral Ptosis." At that time I was using a modification of the Rose adhesive bandage, a modification which had given me good results but which had the disadvantages of an immovable bandage in its effects upon the skin and inability of the patient to remove it for bathing. Since then I have tried other means and now feel that I have a method which is very nearly perfect and which consists in a fitted corset. A stock corset can be used provided it has broader lines so that it may be modified, and therein lies the secret of the application of any type of support for any condition. That is, that the support must be fitted to each individual case. Do not send the patient to the corsetier and simply say, put on a corset. I much prefer the solid back to laced back, and the long one to the short one. The straight front corset must be of such type that it gives ample space for the abdominal viscera when the lower part is pressed upon. If you put on a corset that is tight around the waist line and then draw that corset tight below, the viscera will be compressed in the position of ptosis. The corset is made full in the waist line and has a straight front. If after the corset has been applied it does not fit snugly or give the degree of support below the line of the umbilicus and below the anterior superior spine, a dart is taken on each side and in that way the front portion is shortened. If after that is done there is still not sufficient room at the waist line, I direct that a gusset be inserted allowing greater space at the waist line. I then have a corset which in itself gives the support to the lower part of the abdomen and allows space for the abdominal viscera to be lifted up to the position that it should hold. To reinforce the corset I have a band made and fitted to the lower end of the corset. This is afterwards laced firmly to give increased support to the abdominal structures. Of course I do not neglect in these cases the use of exercises to strengthen the abdominal walls.

Dr. Molyneux, closing: In January, 1911, the Mayos finished a series of 1000 cases of ulcer of the stomach and duodenum. In reviewing them it was found that the most characteristic symptom was pain occurring at regular intervals after meals. Graham, who is recognized as the leading diagnostician in this country, places great stress on pain as being the deciding point in diagnosis of ulcer.

One point not brought out in the discussion is that of chronic perforations of ulcer of the stomach. While not so disastrous as the acute they are more common and deserve much attention. They produce many adhesions, localized attacks of peritonitis and often will lead up to acute perforations.

I wish to emphasize the fact that carcinoma of the stomach must be dealt with in the very early stages, or in that precancerous condition,—ulcer. In 80 per cent. of the Mayos' series cure was absolute; 15 per cent. were not greatly relieved by operation and in the remaining 5 per cent. there was no benefit. It is true that there are certain cases that had to be re-operated upon for adhesions, but all surgeons will admit that any abdominal operation may produce adhesions and require further operation for their relief. The general results, however, of gastroenterostomy or excision of the ulcer are good.

Dr. Sailer, closing: I have seen two cases of gastric ulcer in which practically the only symptom that occurred was a persistent regurgitation of food in small amounts. That is a symptom to which attention has not been particularly called. Both cases puzzled me to a very considerable degree. The fact that there was a slight retention was shown by studies with the *x*-ray and studies of the gastric contents led to the belief that there might be ulcer involving the pylorus. Neither patient had any pain after meals. In one, regurgitation occurred at night and was to a certain extent passive. In the other it occurred at various periods throughout the day. There appears to be a general agreement that diagnosis of carcinoma of the stomach must be made early. I only wish I knew how that could be accomplished. None of the laboratory reactions have proved to be in any sense pathognomonic up to the present time. They are suggestive, inasmuch as they may be positive in the majority of cases, but then they occur in negative cases, and may be negative in cases subsequently found to be positive. Perhaps as good as any rule is the one given by Boas, that, in a patient at the age of forty with constant gastric disturbance, carcinoma should be suspected. If in addition you find that upon further examination at not too long intervals the total acidity of the gastric contents steadily diminishes, the suspicion becomes stronger. I do not think that any absolute diagnosis can be made solely from the examination of the gastric contents.

In regard to the question of Dr. Robertson I can only say that in several cases of acute miliary tuberculosis chiefly of the lungs, but upon microscopical examination found also in other organs of the body, I remember that the epigastric pain has been severe. Dr. Robertson asks me to explain this. I am utterly unable to do so. One can surmise that it is perhaps similar to the epigastric pain occurring in pleurisy and it might be that a more accurate and painstaking examination of the pleura, the intercostal nerves, or possibly of the ganglia on the posterior roots, might show the existence of some lesion. We know that this pain sometimes occurs in herpes zoster, that herpes zoster is also not infrequently associated with disease of the ganglia on the posterior roots and that the pain in the epigastrium may occur for some time; that is, one or two or three days before the herpetic eruption appears upon the chest. I have never examined the posterior ganglia or intercostal nerves. I did not examine them in this particular case where the symptoms were exceedingly marked.

If I may discuss a discussion, I would say, in regard to the corset shown by Dr. Rugh it seems that almost every one who studies cases of splanchnic ptosis ultimately devises some sort of support for the relief of the abdomen. The corset devised by Dr. Gallant meets most of the requirements and all subsequent corsets for this purpose have been more or less outgrowths of this, some of which are improvements, others not so good. I feel with Dr. Corrigan in relation to surgery that, if we can make it clear to ourselves that the real object of surgery is the correction of physiological and not anatomical defects, it will be much easier to arrange for the exact nature of our operations. I do feel also that it is an exceedingly important thing, wherever possible, to determine beforehand exactly what the nature of the operation is going to be. I have sometimes felt that in the stress of desire to complete the operation and perfect the details of the technic, a sufficient consideration has not been given to the functional disturbance from which the patient has suffered and to an effort to correct this functional disturbance. I have recently seen a case with Dr. Pitfield in which a purely functional condition without anatomical disturbance existed for years which was completely relieved by operation performed by Dr. Clark.

Dr. Jopson, closing: There are only two points to which I would call your attention in connection with the closing of this discussion. One is the very just criticism made as to the absence of any detailed discussion of the question of abdominal adhesions. This is a question of such importance that it merits more than passing mention. It has been my own fortune to encounter quite a series of cases in which these adhesions were the main pathological features. The majority were not postoperative but were the result of some acute or chronic infection. Some few were congenital. Some were the result of a distinct focus of infection, such as an appendix or an ovary. Others were due to an intoxication and chronic infection from within the bowel. The symptomatology is being better understood and the diagnosis is being aided, not only by study of the symptomatology but by the use of the *x*-rays. The technic of the *x*-ray examination is so improved that the specialist predicts with much certainty the location of adhesions. The operative treatment yields a greater number of cures than it is given credit for. My experience is that these cases are permanently relieved if followed up and kept under proper hygienic care.

I know Dr. Sailer's views upon the curability of ulcer. The history of these cases as a rule is a history of medical "cure" after "cure" with relapse after a time in most cases. This is shown particularly in some of the London hospital reports, where the patients have come back to the hospital time and time again. If the medical men had anything better to offer than operations the surgeons would turn them over to the medical men but the surgeons are able to show a large percentage of permanent cures.

Dr. Newcomet, closing: The cases of adhesion referred to in the radiographs were confirmed by operation, and neither of them had had a previous operation. Before applying a binder or corset for visceral ptosis the amount of relief that one may expect can be ascertained by the following test: If the hands are so placed as to give lower abdomen support, lifting support, almost immediate relief is given. If this test fails or increases the distress, harm rather than good will be done by the use of the corsets; thus the reason for many failures.

STREPTOCOCCIC INFECTION OF BOTH EYES (PERSONAL EXPERIENCE).

BY FREMONT W. FRANKHAUSER, M.D.,
Reading.

(Read in the Section on Eye, Ear, Nose and Throat Diseases of the Medical Society of the State of Pennsylvania, Scranton Session, September 25, 1912.)

Patient was a physician aged fifty-one years, five feet and nine inches tall, weight one hundred and ninety pounds. Family history on paternal side: Grandfather died at fifty-six, grandmother at eighty-six, father at thirty-six. On maternal side: Grandfather died at eighty-eight, grandmother at forty-two, mother living at seventy-four. There was no tubercular history or other hereditary diseases on either immediate side. Patient had whooping cough, measles, mumps and chicken-pox when small; typhoid fever at twelve; scarlet fever at fourteen; right lobular pneumonia at seventeen.

History of illness: About April 17, 1908, he noticed some pain in left eye, increased lacrymation, some conjunctivitis. Was obliged to go to Hartford, Conn., April 19, for a few days. Five days after noticing the disease was apparent, he placed himself under the best medical care in the city. Photophobia, profuse lacrymation and a profuse purulent discharge now made its appearance. Those conditions grew rapidly worse, so that in a week's time he was unable to visit the attending physician's office, who then visited the patient daily until about August 24, when the patient again went to the physician's office. In the meantime, a number of physicians in Philadelphia were consulted usually once a week. In going to Philadelphia (a distance of fifty-nine miles) he was accompanied by his wife a number of times but then insisted he could go alone, as he did not wish his wife to know how poor his vision really was. He made some very narrow escapes from being run over.

Distant vision at this time ranged from 20/40 to 20/60; near vision, only very large type could be recognized. Lenses made no improvement in close vision.

Mode of infection is not definitely known but it has been carefully determined that it possibly occurred in one of two ways; viz., In treating an infected throat, the patient coughing, some infectious material may have been blown or propelled into the physician's face and eyes; or in having dressed an infected ear, some pus may have been on the applicator, in wiping the applicator he may have gotten some pus on his finger; his eye may have itched and rubbing the eye thus causing the infection. Either mode is possible. The physician prior to the infection was always very careful with his hands to avoid infection, and since is exceedingly careful. Infection can and does happen sometimes and can not be explained.

Symptoms were lids swollen and congested, conjunctiva thickened, the meibomian glands showing the character of granulations; ptosis of left upper lid, so much that he was unable to open beyond a mere fissure; photophobia of both eyes; the bright sunlight would cause intense pain, gas or electric lights doing the same. Dark lenses over both eyes gave some relief. Those were constantly worn. Pupils contracted, at least so it was said. Profuse secretion of pus from both eyes, of a thick tenacious character. Papillary neuritis of both optic nerves made its appearance about three months after infection. The dimness caused by the neuritis was supposed to be due to a thin coat of purulent secretion over the cornea. The patient spoke of the dimness often to the attending physician, both thinking it was caused by mucus.

Fully a year elapsed before the patient was able to see to do any reading. Everything looked as through a cloud or heavy haze. A large halo was around each light, either gas, electric or oil, the size of the halo depending upon the brightness of the light, the size and distance from same. The halo of an ordinary arc light was possibly twenty feet in diameter. In an ordinary 110-volt incandescent light the halo was about three to five feet. The halo appeared as though looking through a frosted glass, always circular in shape.

The photophobia was so intense that an ophthalmoscopic examination could not be made for nine months, then only under the full effects of atropin. A peculiar aberration was present in the shape of all lights, more specially the ordinary 16-candle electric light; this, at a distance of one-half to one square, seemed to be about fifteen to twenty-four inches in length, wider at top and bottom, with a constriction in the center. The patient thought new lights of a different shape had been placed, and it was three or four months before he inquired the cause of the change of light; he was told by his wife that there was no change in the shape or size. This seemed incredible, but on going very close to the light he noticed that it was about or nearly normal in size. This aberration continued for more than a year, when it gradually began to disappear; at the end of two years it had all gone.

Vision began to improve after fifteen months and at the end of two years the patient was enabled to do some reading. It was more than three years before vision was nearly normal. He now wears, at the age of fifty-five, right eye convex 1.50 D.S., left eye convex 1.50 D.S, for distant, and for near, convex 3.50 D.S. in each eye.

There is still some thickening of the conjunctiva in the left eye, also some ptosis of left upper lid. Since January, 1912, he does all his operating and is trying to build up his practice.

Purulent secretion continued for nearly three years, gradually becoming less as the other symptoms improved. The lids were often closed in the morning, requiring quite an effort to open them. Often it became necessary to use the fingers to separate them, even with the assistance of warm water.

Spasm of the Glottis. About fifteen months after infection, one night, after having slept soundly for about three hours, he was suddenly seized with a spasm of the glottis, lasting probably several minutes. The agony was such that it seemed longer, but may not have been as long as it seemed. Inspiration was completely arrested, the patient making every effort to relax the spasm, this continuing until the patient was exhausted, the body covered with profuse perspiration, the patient apparently dying. After complete relaxation the glottis relaxed, the epiglottis was loosened and inspiration was gradually established, when the patient, being exhausted, fell asleep and slept an hour or more before awakening.

These attacks continued nightly for about a week or more, coming on nearly the same time, always after having been asleep. For a week after the attacks had commenced a physician stayed in the patient's room every night prepared to do a tracheotomy at once, should this become necessary. After about ten days these attacks were arrested for several weeks, but recurred occasionally afterwards. The attacks at first occurred only at night, but as they ceased at night, would occur during the day, at meal time or in taking a drink of water. There seemed to be some trouble in swallowing for several months. The patient was told by a laryngologist that the attack was due to relaxation of the parts, due to the infection, but there was no danger as to the loss of life, that the parts would relax when the lungs became filled with carbonic dioxid. Not a pleasant position to be in. Another laryngologist told the patient that there was some impairment of motion of the muscles of the glottis, but he thought it would improve.

The treatment during the attacks was chloroform, or nitrate of amyl by inhalation during the attack, morphin hypodermically a few times after the attack. The patient learned by resisting inspiration as much as possible, he could assist in making the attacks of shorter duration.

Diagnosis. At first it was thought to be a severe case of catarrhal conjunctivitis, but no results were obtained by treatment. A microscopic examination of the secretion was made to see whether it might be tubercular, as the physician had been treating a number of tubercular patients during the time of the infection, some cases being laryngeal infection.

Treatment. The lids were everted and washed very carefully with acid boracicum, ten grains to the ounce, until all secretions were removed; then silver nitrate, one grain to the ounce, a few drops being dropped in each eye. This was done every two hours day and night.

As the infection became worse, the lids more swollen, the conjunctiva thicker, the lids were everted and cleansed every hour. Nitrate of silver was used, one to ten grains to the ounce several times a day, and argyrol, twenty to fifty grains to the ounce was used. As the conjunctiva took more of the condition of granulated lids, they were everted, and touched with sulphate of copper crystals three or four times a week. When this gave no relief the lids were everted and expressed twice a week for several weeks, then less frequently. A few times the everted lids were touched with the solid stick of nitrate of silver. The milder treatment was continued in the meantime.

Cold applications were always very grateful, even drinking ice water gave some relief. Cold always gave relief from pain. In visiting the seashore and indulging in the surf, he bathed his eyes with the salt water, which seemed to make them more comfortable. Solutions of sea salt, a few grains to the ounce, were then used for a long time two or three times daily. This gave more relief than any other remedy applied, and probably did as much good as anything used.

For some months no internal treatment was suggested, but when the neuritis of both optic nerves made its appearance, potassium iodid, five grains three times daily, was used. The patient being very susceptible to the drug, more would always produce a coryza. Strychnin sulphate, one thirtieth of a grain, was also used three times a day.

The patient thinks he owes his recovery to his wife, who attended to him very faithfully day and night, seeing that the eyes were kept as free from secretion as possible, and to his attending physicians who watched his conditions very carefully and tried to meet all conditions. Some credit is possibly due to the patient himself, as he was always passive and always ready; never refused or demurred at any treatment suggested, but was willing and tried any and every thing suggested by his attending physicians. The patient at all times spent as much time as possible in the open air. As his strength improved he did all the walking he could endure.

The patient often stated that the application of the suphate of copper, the solid stick of nitrate of silver, and expressing the lids were exceedingly painful, and is certain that anyone not desiring very much to get well would not endure the treatment so as to get well. The treatment in many instances may have been heroic, but the patient says he believes the attending physicians did what they believed to be the best. The outcome of it all is, the patient has gotten well.

The purpose of bringing this subject before this section is in the hope that in the discussion something may be said that will enable us as physicians to so treat our patients that the attack may be cut short if possible, and the patient relieved from the intense suffering.

DISCUSSION.

Dr. George W. Mackenzie, Philadelphia: It seems to me that either I have missed something in the paper, or that Dr. Frankhauser failed to report the ophthalmoscopic findings. It is important to do this in cases of optic neuritis, and I do not see why they were omitted.

Dr. John B. Turner, Philadelphia: I should like to know whether Dr. Frankhauser means by a "conjunctival inflammation" that it had traveled back and caused this nerve disease. This seems strange to me. Was there any bacteriological examination of the conjunctival secretion? It may have started as a diplobacillus infection. It does not seem to me that any zinc sulphate was used for the diplococcic infection; and the nerve involvement may have been caused by autoinfection. These are questions that I should like to hear the doctor elaborate on more fully.

Dr. Wendell Reber, Philadelphia: I should like to know whether any examination of the sphenoid and ethmoid cells was made; and also about the bacteriological examination of the conjunctival secretion. It is thinkable that there were perhaps sinus complications. Longstanding conjunctival conditions are not infrequently seen in certain forms of sinus disease. In this way there might be a connection established between the optic neuritis on the one hand and the conjunctivitis on the other hand.

Dr. Frankhauser, closing: Being the patient myself, I was not in a condition in which I could make any examinations; but I consulted two laryngologists, both of whom examined my nose and throat, and neither of them mentioned any involvement of the sinuses. There was some secretion from the nose, but it was presumed to be lacrymal secretion from the eyes coming through the lacrymal canal into the nose. As for bacteriological examination, it was made by a number of men; and the infection was said to be streptococcic.

There was not much fun in the attack or in the treatment. The reason that I can not go into the minutiæ of the case is because I could not see the specimens myself.

As for the optic neuritis, it was nearly a year after the infection before an ophthalmoscopic examination could be made, because of the intense photophobia, and the men then said that there was papillary neuritis of both optic nerves. I do know that it was more than a year before I could read anything but large type. There was no blind spot in the center of the field, but everything at which I looked appeared just as if I were looking at it through a very thin, white cloth. It was all hazy; there was nothing clear.

The peculiar part of the halos over the electric lights is that they were always circular in shape, but very hazy, and yellow in color.

Dr. Reber: That sounds like retrobulbar.

Dr. Frankhauser: I can only give the symptoms.

COMMERCIALIZED VICE.

If physicians hope to accomplish anything effective in limiting the ravages of the social plagues it must be by the adoption of new plans; the old ones don't work. Medical and sociologic pathology are so near together in this disease of civilization that neither a medical nor a sociologic prescription will cure the disease; it must be medico-sociologic in its composition.

Removing commercial interests from warfare will reduce war itself to narrow limits; taking commercial profit from the saloon business will bring about temperance faster than will any other one factor; removing the profit from the sale of cocain will immensely reduce the cocain habit; take the profit from opium and China will soon be freed from the opium habit. Yet all these reforms would require the enactment of more or less law.

Commercialized vice is already outlawed, some cities and states having rigid special laws. Because of the money to be made from vice and the many lines of respectable business incidentally helped by allowing that profit to be made despite the law, the laws are not made effective. It is time we ceased arresting the victims; let us enforce the laws we already have upon the people making money out of vicious conditions and then there will be fewer victims to worry about. We must invade business, political, social and even church circles to "get" the responsible money-makers.

So long as the medical profession contents itself with revamping the sordid history of ancient sexual perversions, speculating over eroticism, studying out the convolutions of sexual symbolism, psychologizing over sexual sins, teaching little children instead of the politician and otherwise making a polite propaganda and nine days' wonder of Professor So-and So's last cure-all for vice, just that long will we be wasting effort.

What we need to do is to let grown up men and women know the peril of venereal disease as we see it as physicians and sanitarians; then we should ask them to go with us to the police magistrate and the court to demand enforcement of law. Commercialized vice can be stamped out and it is time we demand that something be done along this line. It does not take any more book-writing to do this; the newspapers, the boards of health, the women's organizations, the medical societies and upright citizens generally can unite to abolish commercialized vice. Doing so will not abolish all vice and private immorality by any manner of means, but it will go a long ways in that direction. Of course, the cry will be made that it can't be done. How do we know it can't be done? Has the test ever been sincerely made? At all events, if our present laws are worthless, let us enforce them as the best means at hand of showing where they are weak.—*The Medical Council*, April, 1913.

MORE HOUSE CLEANING.

To the Minneapolis *Journal*, congratulations. By way of New Year's resolutions it issued a "Clean-Newspaper" announcement on January 1. Unlike the Hearst papers, whose brass-band blarings of reform are sheer bunco, the Minneapolis daily has backed its promises with drastic action. It has cast out the devil of medical quackery and renounced nearly, if not quite, all his works. There still remain a few offenders, such as Musterole, which is permitted to promise relief of bronchitis, tonsillitis, asthma, and pleurisy; and MacLaren's Mustard Cerate with its false pretense of curing congestion of the lungs, sore throat and colds. But these are minor and negative misdemeanors (which will presumably be eliminated as the new standards become more consistently operative) in the light of the positive cleansing of the paper's columns. Swamp Root, Peruna, Lydia Pinkham, Munyon, Pink Pills, Rheumatism Cures, Consumption Cures, Cancer Cures, Bust Developers, Piles Cures, Beauty Remedies, Fat Producers and Fat Reducers, and Kidney and Bladder Cures have been cast out in one grand sweep of house cleaning. "All, all are gone, the old familiar faces," and the honest and decent advertiser with legitimate goods to sell has no longer to fear their poisonous proximity; nor the subscriber, into whose house the paper goes, their half-veiled indecencies or blatant dishonesties. The advertising manager writes:—

"The Minneapolis *Journal* is a home newspaper. It does not want to be a party to the crimes that are being committed in a hundred different ways by newspapers, acting as "go-betweens." . . . We are sick to death of advertising frauds and advertising fakes that are a menace to good advertising and to the morals and health of the community. Their death knell is rung in the Minneapolis *Journal*."

To its advertising patrons the newspaper says simply: "Your advertising must attract more favorable attention in good company than in bad." In brief phrase that embodies the crux of the advertising situation. When the straight advertiser comprehends this vital truth, the crooked advertiser will be forced out of the public prints.—*Collier's*, April 19, 1913.

A CONTRAST.

The action of the Minneapolis *Journal* is earnestly recommended to the attention of the St. Louis *Republic*. Many legitimate advertisers use this latter medium. Side by side with them are exploitations of concerns beyond the defense of the most charitable-minded optimist. Bust developers, "free" fortune tellers, Lydia Pinkham, Dr. Pierce—all the old, foul brood nest here. But this is not the worst. The *Republic* enters into a special arrangement to conceal the nature of some of its worst advertising frauds and to aid the perpetrators to swindle its own readers. Under the heading, "The Doctor's Advice," it publishes what looks, to the casual reader, like an editorial department, signed by one Dr. Lewis Baker. No "adv." sign gives a clue to the true character of the matter. Dr. Baker recommends certain "prescriptions" to supposed correspondents who write in asking for advice. Every prescription includes a concealed patent medicine, every one is a fraud upon the reader. The doctor is hired to perpetrate the fraud. The newspaper is hired to disseminate it. In another column appears the "Health and Beauty Helps" of "Mrs. Mae Martyn, a similar scheme, also peddling proprietary medicines and also undistinguished by the proper indications of paid matter. For a newspaper to accept this kind of fraud advertising at all is bad enough.. To allow the fake to appear in editorial guise is a deliberate bartering of the newspaper's good name and decent repute. Journalism knows no lower depths. It is said that the Hon. David R. Francis controls the St. Louis *Republic*. Presumably Mr. Francis, in his private capacity, owns a conscience. Would it be too severe a strain upon weak human nature for the Hon. David R. Francis to bring his private conscience to bear upon his public print?—*Collier's*, April 19, 1913.

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ATHENS, MAY, 1913.

THE DIETETIC VALUE OF MUTTON.

It is generally admitted by fair-minded students of the question that a mixed diet is the best for inhabitants of the temperate zone desiring to attain their maximum efficiency. The high and rising cost of foodstuffs has brought difficulty in the way of apportioning economically the desired amount of the special proteids that are contained in the flesh of animals used as food. The several varieties of meats exhibit differences in composition, nutritive value and digestibility, as well as of cost, and numerous experimental studies have been made by the United States Department of Agriculture into the nutritive value of different kinds and cuts of meat, the losses sustained in the various methods of cooking, the thoroughness of digestion and the effect on palatability and economy of different methods of preparation for the table and cognate matters. As the result of a recent investigation undertaken by C. F. Langworthy, Chief of Nutrition Investigations, and Caroline L. Hunt, Expert in Nutrition, Office of Experiment Stations, and recently published as *Farmer's Bulletin 526*, it was found that mutton has practically the same composition and nutritive value as beef and that the average loss of weight in preparing the two kinds of meat is also practically the same. When storage facilities exist it will be found economical to buy in quantity as it may be practical to utilize a side of mutton when a side of beef would be too large. There is little real difference in the digestibility of the two kinds of meat, both being thoroughly assimilable. The characteristic flavor of mutton, commonly attributed to the fat, is generally relished and may be developed or modified by various methods of cooking to meet different tastes. The fat itself is susceptible of many household uses. Mutton can be prepared for the table in many ways; thus affording a desirable variety in diet. Also savory dishes can be made from inexpensive cuts, which will be found palatable as well as wholesome. On the basis of its composition, palatability, wholesomeness, relative cost and the variety of ways in which it can be prepared it will thus be seen that mutton is an important foodstuff, affording an attractive and palatable diet at reasonable cost. E.

DRUGGISTS AND PATENT MEDICINES.

Patent medicines occupy about the same position in pharmacy that "ethical" proprietaries do in medicine. That is, as the "proprietary" encourages unscientific prescribing and careless diagnosis on the part of the physicians, so the "patent medicine" leads many druggists to assume the functions of the physician and to prescribe for diseases of which they are ignorant. A physician, if he would, could readily learn to prescribe nonproprietary drugs in place of the proprietary mixtures. On the other hand, most pharmacists could not give up the sales of patent medicines without serious financial loss. Although any restriction or curtailment of the patent medicine traffic is thus likely to hurt the drug business, everything points to an early revision of it. It only remains to be seen whether the retail druggists will put their own house in order or will wait until it is done for them by legislative enactment.

Of the two national associations of druggists, one, the National Association of Retail Druggists, is composed of retail druggists or pharmacists only, while the other, the American Pharmaceutical Association, is made up of retail druggists (pharmacists), wholesale dealers in drugs, pharmaceutical manufacturers and "college professors," the latter, however, being usually affiliated or in sympathy with manufacturing houses. The first organization is a purely commercial body which considers patent medicines only from the financial standpoint. The second organization contains within its membership those who appreciate that something must be done if the pharmacist wishes to retain the respect of the medical profession and the confidence of the public. Thus, the secretary of this association, who is also editor of its official organ, the *Journal of the American Pharmaceutical Association*, in a recent issue acknowledges the incongruous position in which the retail druggist of to-day finds himself when he "stands before the medical profession, with one hand full of proprietary cure-alls, and with the other distributing literature advocating a return to rational prescribing and an increased use of official preparations." It is explained that "the druggist's apparent inconsistency is pressed upon him by force of circumstances in which patent medicines represent his business necessities, while the propaganda for rational prescribing represents his aspirations for better things and his strivings for a more professional as well as for a more profitable business."

In this connection it is recommended that the American Pharmaceutical Association appoint an advisory body to determine to what extent and under what conditions the retail pharmacist is justified to deal in patent medicines. It is to be hoped that the secretary-editor's recommendations will be taken up by his association and will lead to a reform in the patent medicine business. As the American Medical Association's Council on Pharmacy and Chemistry is slowly but surely bringing about a reform in the proprietary medicine business, so the American Pharmaceutical Association can, if it will, bring about a reform in the patent medicine traffic. We say this with a full realization of the druggist's considerable dependence on the patent medicine business and also with a knowledge that the manufacturing interests which are represented in the association have largely dictated the policy of the association. As these manufacturing houses, though not directly engaged in the patent medicine business, are closely allied to these interests, they will probably not take kindly to anything that will curtail or restrict the patent medicine business. Therefore it behooves the retail pharmacists to give the proposed council their loyal and unwavering support. S.

THE SPECIAL PACKAGE EVIL.

Sometime ago the New York *Sun* warned the public against physicians who prescribe proprietaries, whom it blamed for the all too prevalent tendency of the public toward self-medication. In discussing this sign of the public's appreciation of the proprietary evil, Dr. W. C. Wescott of Atlantic City, an ex-pharmacist, agrees that the prescribing of ready-made medicines fosters self-drugging and also that it tends to lessen the patient's confidence in his physician—about as much, he says, as one would lose confidence in a tailor who is caught palming off a ready-made suit of clothes. Dr. Wescott believes that, while the patient has a right to know what medicines he is taking, it is desirable that physicians take pains to give their prescriptions an individual character and to avoid, whenever possible, giving the appearance of prescribing ready-made medicines. He continues:

> "Physicians who would follow this advice should bear in mind that almost every proprietary article is put up in a distinctive package, and also that the druggist is most likely to dispense it in this package. As a result it is more than likely that the patient will find it out if a proprietary is prescribed, no matter whether it is Fellows' Syrup with the name blown in the glass or the very ethical and probably valuable atophan with its neat little 'star-bespangled' box, even if the physician takes pains to write special directions and the druggist removes the printed label and affixes his own. And it must be understood that the druggist has good reasons for dispensing the proprietary in its original container. In the first place, many physicians have acted on the manufacturer's assertion that druggists are prone to substitute, and therefore tell their patients the kind of container in which their medicine should come, thus making it suicidal for the druggist to transfer the proprietary to a regular prescription box or bottle. The second reason is that the druggist must often use the peculiar style of container as a warrant for the high price that he must charge, for almost every proprietary is more expensive than ninety-nine per cent. of the ordinary prescriptions of physicians.
>
> "It would be most instructive and also decidedly advantageous if physicians would make it an invariable rule to ascertain the style in which a proprietary remedy whose employment they contemplate is put up. They will then see what steps they must take in order that a prescription for such a proprietary remedy may not be the cause of its indiscriminate use, or subject them to the criticism of prescribing ready-made medicines."[1]

The objection to the special package evil is well taken. There are two ways in the hands of physicians to correct it. The first, and simpler, is not to prescribe proprietaries which affect this style of dress. The second and probably more efficient, is for individual physicians to go to the trouble of making their disapproval known to the proprietors of such preparations. S.

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[1] *Jour. A. M. A.*, Feb. 1, 1913, p. 387.

ATTRACTIONS FOR THE PHILADELPHIA SESSION.

Philadelphia has many places of historical interest, several large department stores (one the largest in the world) which will appeal to the ladies for shopping, and other attractions for sight-seeing. These varied attractions should cause members to choose the time of the next meeting as their annual vacation.

Our plans are arranged to entertain the out-of-town men and their ladies for the entire week. On Monday and Friday of that week there will be held clinics in many of the hospitals. In addition to the regular scientific program on Tuesday, Wednesday and Thursday, there will be a meeting open to the general public, as well as the members, on Friday evening.

The members and their ladies are invited to be guests at Atlantic City from Saturday afternoon until Sunday morning. Special auto trips and boat rides are being arranged for the ladies; on Tuesday afternoon to the Navy Yard and the Curtis Publishing Company, (publishers of the *Ladies' Home Journal*, and the *Saturday Evening Post*, etc.): Wednesday morning through Fairmount Park; in the afternoon a public meeting for women; in the evening the President's reception to which the ladies are invited; Thursday morning, trip down the river; Friday afternoon, trip up the river.

Thursday evening the Philadelphia County Medical Society will give a smoker to the members. F. C. H.

PROGRAM FOR THE PHILADELPHIA SESSION.

The Committee on Scientific Work held its final meeting in Pittsburgh on May 3 and completed the program for the September session which promises in every way to go ahead of any former gathering of the society. So many excellent papers had been proffered for the general meeting and in each section that it was necessary to decline nearly half. This abundance of papers caused the committee considerable embarrassment on the one hand, but enabled it to arrange a well-rounded program for the next session. S.

FOR THE SMALL MINORITY.

In all societies the majority must rule, but the minority have rights that must be considered. It is the desire of the officials of the state society to develop more and more the fraternal spirit of organization. Where there are rights and privileges there are also duties and responsibilities. In all fraternal societies only those who are in good standing are entitled to the benefits of the organization. The constitutions of nearly all of the component county societies provide that on July 1 of each year the local secretary shall report to the secretary of the state society all members who are six months in arrears for dues as suspended. Suspended members are not entitled to assistance from either the Medical Benevolence Fund or the Medical Defense Fund, nor to receive the Journal. Neither will they be entitled to attend the Philadelphia session in September. Probably five out of every six members have already paid their annual dues for 1913. Local secretaries are urged to use all necessary tact and faithfulness in their endeavors to collect dues from delinquent members. The members who have not paid their dues would be urged promptly to send in their checks were it not well known that in most cases it is they who do not read the Journal. S.

CHANGES IN MEMBERSHIP OF COUNTY SOCIETIES.

The following reports have been received since the April Journal was printed:—

Allegheny County: *New Members*—Charles A. Duffy, Edgar E. Mattox, Pittsburgh. *Resigned*—Edwin R. Fleming. *No Longer a Member*—William J. Hickson. *Removal*—Henry B. Barnhart from McKees Rocks to Allison Park, R.D. 1.

Blair County: *New Member*—Frank Keagy, Altoona. *No Longer a Member*—Ernest R. Myers (residing outside the state).

Bradford County: *Death*—Ernest N. Shepard (Jefferson Med. Coll., '95) in Burlington, April 26, from heart disease, aged 42.

Bucks County: *Removal*—LeRoy H. Saxe from Telford (Montgomery Co.) to Fannettsburg (Franklin Co.).

Delaware County: *New Member*—Walter V. Emery, Chester. *Removal*—William F. Elgin from Glenolden to Washington Grove, Md.

Franklin County: *Removal*—Harry B. McGarrah from Fannettsburg to Robertsdale (Huntingdon Co.).

Huntingdon County: *Removal*—Charles H. Gardner from Spruce Creek to Altoona (Blair Co.).

Lackawanna County: *New Members*—John J. Kane, Minooka; Edward J. Murray, Throop.

Lancaster County: *Removal*—Claude D. Roop from New Providence to Lancaster.

Luzerne County: *New Members*—James R. Beaver, James R. Thompson, Pittston; Frank J. Kosek, Aston H. Morgan, Albert H. Wilkinson, Wilkes-Barre; Henry M. Laing, Dallas; James A. Mulligan, Plains; John C. Storz, Luzerne. *Death*—Alexander G. Fell (Univ. of Pennsylvania, '87) in Wilkes-Barre, May 1, aged 52.

Lycoming County: *Removal*—James S. Mosher from Williamsport to Picture Rocks.

Northampton County: *No Longer a Member*—Oscar D. Swoyer.

Perry County: *New Member*—Lenus A. Carl, Newport.

Philadelphia County: *New Members*—Frank D. Dickson, Charles Votteler Dorwarth, Percy H. Ealer, William Norman Ferguson, J. Paul Frantz, Max Green, Berta M. Meime, James A. Morgan, Adolph I. Ringer, George Ward Rockwell, Joshua Edwin Sweet, John P. Turner, Edna S. Valentine, Philadelphia. *Death*—Arthur Ames Bliss (Univ. of Pennsylvania, '84) in Philadelphia, May 2, from nephritis, aged 54. *Removals*—Edgar Montealegre from Philadelphia to Abangarez Gold Fields, Puntarenas, Costa Rica; James Gurney Taylor from Wynnewood to 514 Goldsmith Bldg., Milwaukee, Wis.; William G. Turnbull from Philadelphia to Cresson (Cambria Co.).

Schuylkill County: *New Members*—Walter G. Bowers, Hamilton C. Wallace, Pottsville. *Removal*—Richard D. Roderick from Maryd to Hazleton (Luzerne Co.).

York County: *Removal*—Benjamin F. Posey from Philadelphia to York.

Present membership 6037. S.

STATE NEWS ITEMS.

MARRIED.

Dr. Silas Robert Posey and Miss Edna Mae Sherk, both of Lititz, March 27.

Dr. Willis F. Manges, Philadelphia, and Miss Marie Elsie Bosley, in Baltimore, April 19.

Dr. George Hay, Johnstown, and Miss Mary Louise Austin, Oak Lane, Philadelphia, April 12.

Dr. Holland H. Donaldson, Pittsburgh, and Miss Florence E. Beatty, Wilkinsbur April 30, 1913.

Dr. Francis Brinton Jacobs, Philadelphia, and Miss Phebe Anne Price, Whitford, at Glen Loch, April 24.

Dr. Howard S. Anders and Mrs. Maud Howland Wiggins, both of Philadelphia, in New York, March 12.

Miss Mary Yandell Rodman, daughter of Dr. and Mrs. William L. Rodman, and Mr. Lincoln Godfrey, Jr., in Philadelphia, April 23.

BORN.

To Dr. and Mrs. William H. Cameron, Pittsburgh, April 4, a daughter.

To Dr. and Mrs. Brooke M. Anspach, Philadelphia, April 14, a daughter.

DIED.

Dr. George B. Hall (Univ. of Pennsylvania, '91) in Shawmut, March 30, aged 46.

Dr. Samuel Hubler (Univ. of Pennsylvania, '79) in Scranton, April 24, aged 69.

Dr. Edgar D. Doolittle (Bellevue Hosp. Med. Coll., '70) in Easton, April 12, aged 66.

Dr. Joshua M. List (Cleveland Univ. of Med. and Surg., '75) in Evans City, April 21, aged 71.

Dr. Edward Francis Guth (Univ. of Pennsylvania, '62) in Philadelphia, March 13, aged 72.

Dr. Frederick L. Preston (Hahnemann Med. Coll. and Hosp., Philadelphia, '77) in Chester, April 21, aged 70.

Dr. John W. C. O'Neal (Univ. of Maryland, Sch. of Med., Baltimore, '44) in Gettysburg, April 25, aged 92.

Dr. Harry A. Stutsman (Medico-Chirurgical Coll., '05) in Tower City, April 4, from pleuropneumonia, aged 36.

Dr. Abel P. Phillips (Eclectic Med. Coll. of Pennsylvania, '67) in Bear Lake, February 17, from senile debility, aged 80.

Dr. Clarence Smith Rether (Jefferson Med. Coll., '84) of Biflerville, was found unconscious on the road near Gettysburg, March 27, and died a few hours later, from exposure, aged 58.

ITEMS.

Dr. J. B. McAlister has been appointed a member of the Harrisburg Board of Health.

The Methodist Hospital, Philadelphia, will receive $21,000 by the will of the late John Fritz of Bethlehem.

Dr. Wilmer Krusen was the guest of honor at a dinner given by Dr. Frank C. Hammond, at the St. James Hotel, Philadelphia, April 30.

Dr. L. A. Sherk, Tower City, was on May 12, sentenced by the Schuylkill County Court to four years in jail for performing an illegal operation.

Fraudulent Use of the Mails. Seven "doctors," some of them legal practitioners, were arrested in Pittsburgh on May 1, in a raid conducted by postoffice inspectors, charged with using the mails for alleged fraudulent purposes.

W. B. Saunders Company, Philadelphia, have issued the seventeenth edition of their catalogue. It describes nine new books and ten new editions not described in the previous issue. Copy will be furnished to any physician on application.

The Central Hospital of Philadelphia reopened recently at 2219 Chestnut St. and will be conducted in affiliation with the Philadelphia School for Nurses. Medical, surgical and obstetrical patients will be received under the personal care of their own physician.

The Medical Club of Philadelphia on April 25 gave a reception to eminent jurists of the city. More than five hundred physicians were present and addresses were made by the guests of honor. A memorial address on the late Dr. Roland G. Curtin, a former president of the club, was read by Dr. J. M. Anders.

Gives Home to Charity. Miss Mary Gibson, of Maybrooke, Wynnewood, has given the use of her home in Narberth for a summer holiday house for children. The place has been named "The King's Daughters' Holiday House," and will open about the middle of June. As this is early for school children, babies from convalescent wards of hospitals will have the first privileges of the home.

Joseph Leidy Lecture. The first lecture of the Joseph Leidy Memorial Foundation was delivered in Houston Hall, University of Pennsylvania, April 17, by Edmund Beecher Wilson, professor of zoology, Columbia University, N. Y. Dr. Charles Sedgwick Minot of Harvard University, at the same time paid a tribute to the life and services of Dr. Leidy as student, teacher and investigator.

Orthopedic Hospital Organizes Health Class. Every Saturday afternoon a number of girls ranging from 10 to 16 years of age meet at the Orthopedic Hospital and are given instruction in caring for themselves. All the members of the class are suffering from curvature of the spine or nervous defects and they are taught the principles of hygienic living, the need of fresh air, plenty of water, bathing and exercise.

The Committee on Fractures of the American Surgical Association desires to have two reprints of any paper dealing with the nonoperative or operative treatment of open or compound fractures which have been published within the last five years. The committee also desires papers on the medicolegal relations of radiography to the diagnosis and treatment of fractures. If authors have no reprints, the Committee would be pleased to receive memoranda of the places of publication of such papers.—John B. Roberts, Chairman, 313 S. 17th St., Philadelphia.

Convicted of Practicing without a License. The Medical Society of Northampton County and the Physicians Protective Association of Easton at last December term of the Northampton County Court brought prosecution against one Dr. (?) M. B. Burstan, an advertising eye specialist, who held himself forth as a licensed physician, and succeeded in having him convicted and fined fifty dollars and costs of prosecution, and was warned by the court not again to advertise himself as a physician. This man at present is said to be in Uniontown, Pa., practicing under the guise of an osteopath, which, according to the records of the Osteopathic Board, he is not.

The Alumni of the Medical Department of the University of Pennsylvania held its annual dinner in the Bellevue-Stratford Hotel, on the evening of April 18. Dr. William Pepper was toastmaster, and among the speakers were Dr. Richard C. Cabot of Boston, Dr. S. Weir Mitchell, Dr. Lewis H. Taylor, and Dr. John G. Clark. Previous to the dinner a short business meeting was held, and the following officers were elected to serve for the ensuing year: President, Dr. John B. Deaver; vice-presidents, Dr. John K. Mitchell, Dr. Richard C. Norris, and Dr. S. McC. Hamill of Philadelphia, Dr. Lewis H. Taylor of Wilkes-Barre, Dr. Casper W. Sharples of Seattle, Wash., Dr. Walter R. Wieser of Springfield, Mass., and Dr. Alexander R. Craig of Chicago; historian, Dr. William Pepper; secretary and treasurer, Dr. G. Morris Piersol.

Doctor Tyson Honored. In recognition of his work as a practicing physician for more than fifty years, Dr. James Tyson, emeritus professor of medicine in the University of Pennsylvana, was the guest of honor at the annual banquet of the Northern Medical Association of Philadelphia, held on the evening of April 30. More than fifty physicians were present. Dr. Thomas Shriner presided as toastmaster, and among those who responded to toasts were Dr. John B. Deaver, who spoke of the University of Pennsylvania; Dr. William E. Robertson, who told of the work of Temple University; Dr. J. M. Anders, whose topic was the Medico-Chirurgical College; Dr. F. X. Dercum, who spoke of the work of Jefferson Medical College, and Dr. Albert Bernheim, whose topic was the medical teachers of Philadelphia.—*New York Medical Journal.*

Phipps Institute Opened. The new Phipps Institute at Seventh and Lombard Sts., Philadelphia, was publicly opened May 10, and is said to be the most complete plant of its kind devoted entirely to the study, treatment and prevention of tuberculosis. It will have three fields of activity, research, clinical and sociological. The degree of Doctor of Laws was conferrred upon Henry Phipps, whose generosity made possible the foundation of the Institute, and also upon Dr. Edward L. Trudeau, who in 1884 founded the Adirondack Cottage Sanatorium. Addresses were delivered by Drs. Lawrence F. Flick, Philadelphia, and Herman M. Biggs, New York. In the evening a banquet was held at the Bellevue-Stratford, with Dr. J. William White acting as toastmaster. The speakers were Mayor Blankenburg, Drs. S. Weir Mitchell, Alfred Stengel, Philadelphia; William H. Welch, Baltimore, and Theobald Smith, Boston.

Convicted for Criminal Malpractice. Dr. Jacob H. Heller, Easton, was on Arpil 21, sentenced in the Northampton County Court to one year and two months, and to pay a two hundred and fifty dollar fine and costs, having been convicted of criminal malpractice, which resulted in the death of a young girl from New Jersey. He had been in court on several previous occasions, charged with the same offense. The attention of the Bureau of Medical Education and Licensure is respectfully called to Section 12 of the Medical Practice Act of 1911, the first paragraph of which reads as follows: "The Bureau of Medical Education and Licensure shall refuse to grant a license to practice medicine or surgery to an applicant upon the presentation to said Bureau of Medical Education and Licensure of a court record showing the conviction in due course of law of said person for producing or aiding or abetting in producing a criminal abortion or miscarriage by any means whatsoever, and further, the Bureau of Medical Education and Licensure upon such evidence and proof shall cause the name of such convicted person if a licentiate to be removed from the record in the office of the Superintendent of Public Instruction."

Medical Economics. The Philadelphia Clinical Association on March 20 listened to a paper by Dr. G. M. Illman on "The Future of the Philadelphia Clinical Association." The Laboratory, Library, Coöperative Department, Visiting Nurse Department, Sanitarium, Cooperative Automobile Insurance and Beneficial Fund were explained. Dr. B. F. Devitt reported on the work of the Coöperative Purchasing Committee. Dr. Wilmer Krusen in discussion spoke as follows:—

The question of the higher cost of living is one that is paramount in the life and thoughts of the average medical man, who has no other source of income than that derived from his professional work. The sane and right thinking physician desires to live as well, to educate his children as thoroughly, and to provide for accident, disability and old age as certainly, as his peer in any other profession or business. There is no sadder spectacle than a medical man who has labored unselfishly for humanity for years, and who finds himself incapacitated for work and dependent upon the grudging charity of unwilling friends.

This association is doing pioneer work in planning a project which will aid the medical man, by coöperative work, to diminish his expenses, to protect himself against combinations of business men who maintain a standard of prices for articles which are indispensable in household or professional work, to avail himself of every opportunity to buy necessities in the most advantageous market. This is business, and it is ethics. No man can point the finger of scorn at any profession which occasionally departs from traditions and methods of centuries of altruistic work, to prepare for the inevitable sociologic and economic transmutations which confront it. We may meet with carping criticism from our enemies and those whose profits are indubitably affected by our coöperative scheme; and we may meet with kindly criticism and advice from those of our friends who view with apprehension anything which savors of commercialism, of violation of some threadbare and musty and effete custom which may enshroud our profession like the cerements which envelop the form of some Egyptian mummy; but as we carefully and conservatively develop the plan outlined to-night, we will find that medical men in this and in other communities will emulate our example and praise us for our useful radicalism.

Progressivism is the slogan of the epoch. While we deprecate ruthless and useless iconoclasm, we advocate a constructive and practical policy which will aid the members of this association in reducing their expenses and legitimately increasing their incomes. We must not be surprised or discouraged or deterred by opposition. It would be most surprising if some antediluvian or some timorous or extremely orthodox individual did not attack the plan which has been so carefully, deliberately, and thoroughly considered by the president and Board of Governors of this club; and we ask your indulgence and coöperation in making your club a success, not only scientifically and medically, but also economically and practically.

We owe a debt of gratitude and an obligation to express our appreciation to Drs. Illman and Devitt and to all off those who have conceived and elaborated this valuable plan; and the thoughful members of this club will unite in aiding the committee in trying this holy experiment of solving one of the perplexing problems which periodically confront the physician.

GENERAL NEWS ITEMS.

Dr. William H. Welch, Johns Hopkins Medical School, has been elected president of the National Academy of Science for a term of six years.

Dartmouth Medical School, established in 1797, will suspend granting degree of doctor of medicine after 1914, but will continue the first two years of the course.

Memorial Gift. Mrs. George William Hooper, San Francisco, has given $1,000,000 to the University of California, for the establishment of an institution of medical research.

The American Proctologic Society will hold its fifteenth annual meeting at Hotel Radisson, Minneapolis, June 16 and 17. For further particulars address the Secretary, Lewis H. Adler, Jr., M.D., 1610 Arch St., Philadelphia.

The Henry Phipps Psychiatric Clinic, a new department of Johns Hopkins Hospital, for the treatment and study of mental disorders, was formally opened April 16, with an address on "Specialism in General Hospitals" by Sir William Osler.

The Rockefeller Institute for Medical Research will receive $200,000 by the will of the late Henry Rutherford, New York, the money to be used "to investigate into the cause and nature of cancer and methods of its prevention and treatment."

The American Medical Editors' Association will hold its annual meeting June 16, at Hotel Radisson, Minneapolis, and its banquet on the evening of the same day. An interesting program has been prepared covering items of journalistic as well as general information.

Civil Service Examination. The U. S. Civil Service Commission announces open competitive examination on June 4 as follows: Male physician for various positions (Ask for Circular No. 498 and supplement.); for dentist, Indian Service (Circular No. 499); dental intern (Circular No. 477). Address U. S. Civil Service Commission, Washington, D. C.

Dr. Jacob W. Bolotin, a blind physician, has been appointed one of the attending physicians at the Cook County Hospital for Consumptives, at Dunning, Ill. Dr. Bolotin is twenty-five years old, graduated from the Chicago College of Medicine and Surgery, and has just passed the Illinois examination. He graduated when only fourteen years old from the Illinois School for the Blind.

New and Nonofficial Remedies. Since April 1 the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion with New and Nonofficial Remedies: Coli vaccine, gonococcus vaccine, pneumococcus vaccine, staphylococcus vaccine, staphylococcus albus vaccine, staphylococcus aureus vaccine, streptococcus vaccine, typhoid vaccine, typhoid vaccine for prophylactic treatment, Lederle Antitoxin Laboratories.

The Fourth International Congress on School Hygiene, will be held in Buffalo, August 25-30. The first International Congress was held at Nuremberg in 1904, the second at London in 1907, the third at Paris in 1910. The objects are: (1) To bring together men and women interested in the health of school children; (2) to organize a program of papers and discussions covering the field of school hygiene; (3) to assemble a school exhibit representing the best that is being done in school hygiene; (4) to secure a commercial exhibit of practical and educational value to school people; (5) to publish the proceedings of this congress and distribute them to each member. In addition there is a plan on foot to effect a permanent organization for the purpose of carrying out school hygiene reforms in all the individual communities in this country, if not all over the world. Address C. S. Thompson, College of the City of New York, New York City.

MEETING OF THE AMERICAN MEDICAL ASSOCIATION, MINNEAPOLIS, JUNE 17-20, 1913.

The local Committee on Arrangements in charge of the coming meeting of the American Medical Association has issued a bulletin of information which will be of interest to members who propose to attend. Inquiries with reference to the details of the meeting may be addressed to Dr. Frank C. Todd Chairman, or to Dr. J. C. Litzenberg, Secretary, Minneapolis, Minn., of the Committee on Local Arrangements and will be referred by them to the proper subcommittee for attention.

INFORMATION.

At each railway station, the Committees on Reception will meet and direct arriving guests to their hotel destinations. A Bureau of Information will be established at stations, hotels and meeting-places for consultation of visitors. A special committee of women physicians will take care of their professional associates.

REGISTRATION.

A Bureau of Registration will be located at the Armory of the University of Minnesota. Members are requested to report for registration promptly upon arrival. At the Bureau they will receive programs, items of news, and invitations for association and local functions.

POST OFFICE AND TELEPHONES.

An *Association Post Office* will be maintained in the Armory on the *University Campus.* Guests are requested to order mail addressed to them in these italicized terms. Telephone booths will be provided at each meeting place, for the use of members.

PROGRAM OF OPENING MEETING.

The opening meeting will occur at the Minneapolis Auditorium, Nicollet Ave.and Eleventh St., on Tuesday, June 17, at 10:30 o'clock. President Abraham Jacobi will call the meeting to order. Addresses of welcome will be delivered by Dr. George Edgar Vincent, President of the University of Minnesota; by Dr. H. H. Kimball, President of the Hennepin County Medical Society; by the Hon. Wallace G. Nye, Mayor of the City of Minneapolis; and by the Hon. A. O. Eberhart, Governor of Minnesota. The President, Dr. C. A. Witherspoon, will deliver his inauguration address.

ASSOCIATION MEETING PLACES.

With the exception of the opening meeting announced as above, the meetings of the House of Delegates and of the several sections will be held in the buildings of the University of Minnesota. The scientific and commercial exhibits will also be placed at the University.

ENTERTAINMENTS.

The President's Reception will occur on Wednesday evening, June 18, in the National Guard Armory, opposite Loring Park, Minneapolis.

On Thursday evening the medical profession of St. Paul will tender to the Association and their ladies an entertainment at St. Paul's great auditorium.

The customary banquets of the sections of the Associations will occur on Tuesday evening, at 7:30 o'clock. Tickets will be obtainable from the secretaries of the respective sections.

The annual banquet of the women physicians of the Association will occur on the same evening, at the Hotel Leamington, Minneapolis.

The Minneapolis Ladies' Committee on Entertainment has provided a number of interesting excursions for the wives and daughters of visiting members. The ladies' headquarters will be at the Radisson Hotel and they are requested to register there and to secure official programs of entertainment, to select opportunities of excursions and to obtain tickets for selected trips. Ladies of the committee will always be in attendance at headquarters to give any information desired to visitors. Afternoon tea will be served at the ladies' headquarters every day from 3 to 5 o'clock, and a rest room will be always available.

PROGRAM OF CLINICS.

On Monday afternoon, June 16, at 2 o'clock, a public lecture will be given in the University Chapel. At 8 P.M. on the same day and in the same place, Dr. Theodore Weisenburg, of Philadelphia, will give a series of moving pictures, illustrating various phases of nervous diseases. Operative clinics will be conducted in all the leading hospitals in Minneapolis at the close of the Association meeting.

NONAFFILIATED ORGANIZATIONS.

The American Academy of Medicine meets in Minneapolis, June 13 to 15. The general topic of the meeting will be "The Physical Basis of Crime." Several valuable papers are promised.

The fourth Annual Conference of Western Medicine in Eastern Lands will be held Sunday afternoon, June 15, in Westminster Church.

The American Association of Teachers of Diseases of Children will meet at the Commercial Club, Minneapolis, June 16. Information regarding this meeting may be had of Dr. J. P. Sedgwick, Chairman of the local committee on arrangements.

ALUMNI REUNIONS.

The Alumni Associations that desire to hold reunions during the meeting of the American Medical Association will please communicate through their secretaries with Dr. E. K. Green, Reid Corners, Minneapolis, with regard to the date of such meetings and their requirements in the way of entertainment and meeting places.

NOONDAY LUNCHEONS.

At the noon hours of Tuesday, Wednesday and Thursday, June 17, 18 and 19, a complimentary buffet luncheon will be served at several points on the campus, to which attending physicians and attendants upon exhibits are invited.

TRANSPORTATION TO THE MEETING.

The Trunk Line Association has authorized one and one half first-class limited fare to trunk line western termini, plus summer excursion fares tendered therefrom for the round trip. Tickets to be sold to Minneapolis or St. Paul. Dates of sale, June 12, 13 and 14. Final return limit, tickets to be limited to October 31, 1913. No validation of tickets for return passage will be required. Parties expecting to go on to Yellowstone Park or elsewhere may purchase through tickets at starting point. See advertising page II. Most Pennsylvania members will take the Chicago Great Western Railroad between Chicago and Minneapolis. See advertising page III.

Dr. Liston H. Montgomery, 108 N. State St., Chicago, is arranging for a special-train party which will leave Chicago on the Chicago Great Western from the Grand Central Station, Fifth Ave. and Harrison St., 6:30 P.M., Sunday, June 15, arriving at Rochester, Minn., Monday at 6:45 A.M. Breakfast and luncheon will be taken at the Zumbro Hotel and the day spent at the Mayo Brothers' Clinic, and in visiting the Minnesota State Insane Asylum. Party will leave Rochester at 3:15 in the afternoon, reaching Minneapolis at 8:15 Monday evening. In addition to the regular sleeping car to Rochester, special Pullmans will be attached for the accommodation of the party.

OUTSIDE EXCURSIONS.

A number of special excursions have been planned for members of the Association who desire to extend their vacation, by way of visits to the great sight-seeing regions of the Northwest.

Two of such excursions will go to the Yellowstone National Park, spending several days in an extended tour of the wonderful beauty spots in that region.

Another excursion is arranged for Glacier National Park and will consume eleven days for the round trip; over eight days being spent in viewing the wonders of this remarkable region.

From these excursion points, those who desire may extend their trips to the Colorado Rockies, to the Canadian Rockies, to California and the Puget Sound country and on to Alaska for a twelve days' cruise by way of the Inland Passage, including visits to some interesting Indian and Eskimo villages and to some of the finest of the Alaskan glaciers.

The Minneapolis Convention Number of the *Journal of the American Medical Association*, May 10, contains an interesting account of the city's history and growth; suggestions of points of interest to be seen in and about the city; and an account of the development of the University of Minnesota, which is to be the especial hostess of the Association.

COUNTY BULLETIN EXCERPTS.

Medical Monthly, BUCKS.

TO THE MEDICAL PROFESSION OF PENNSYLVANIA. Did you ever own a horse that had served you as faithfully as he could? Were you cold blooded enough to sell him to another for a few measly dollars, not knowing what his future would be? Did ever the spectre of his abuse rise up before you in the stillness of the night, and the pittance you received for him burn anguish and remorse into your heart and soul? If not, then these words and thoughts are not for you.

Did you ever see an aged and infirm doctor in both body and mind going down the road leading to eternity with the heavy load of necessity weighing his soul and body down until he drops a crumpled mass over the precipice, death, which his failing vision could not see? Did it ever occur to you that this poor old doctor did not of choice continue his weary journey, but through compulsion to provide for the necessaries of life for himself and his dependents which those he had served so faithfully had failed to provide?

Did the thought ever occur to you that we are, or ought to be, a brotherhood, bound together for mutual protection by a sympathetic affection, which is, or should be the natural outgrowth of a profession which calls forth the highest impulses of humanity?

Did the thought ever occur to you that while you labor daily to provide for others of all stations and walks of life, you fail in your duty in not providing for your own?

Did the thought ever occur to you how through unified coöperation, without noblisse oblige, the various trades, occupations and fraternal organizations are providing, with little cost to each individual unit for the two extremes of life, and for personal incapability to make provision for self and dependents?

Did the thought ever occur to you that if the aged, infirm and incapables of our profession, and their dependents were amply provided for, as are others of less dignified and honorable trades, occupations and professions, there would not be the scramble to outdo one another, so frequently evidenced in many ways at present, as has been in the past, and will be in the future unless ample provisions are made for your life's necessities, and that of your dependents?

Did the thought ever occur to you that you are doing a vast amount of unnecessary work for those who are able, and should be willing to pay you, and would pay you if you had the good sense and nerve to ask for what you are honestly entitled to?

Did the thought ever occur to you that what you do for the state, for nothing, in reporting births, deaths and contagious diseases, is a wrong upon the medical profession of this state?

Did the thought ever occur to you that the legal profession would never allow any state department to enact such a rule to apply to their profession, and if such a rule was adopted they would see to it that it would not stand the test of their courts?

Did the thought ever occur to you that our profession has become an object of prey for sinister-minded people, assisted by shyster lawyers, to mulct us for damages without just and sufficient reasons; that our courts and juries, be they ever so honest and virtuous, are not fitted by education and practice to rightly decide the merits or demerits of medical practice; that all such cases should be passed upon by a board of medical experts, and their findings passed into court as that of a jury; that the laity and the legal profession are no better qualified to pass upon questioned medical violations than the laity and the medical profession are to pass upon questioned legal violations by the legal profession; that malpractice suits have become so frequent and outrageous as to cause our state society to defend its members at the society's expense, provided the member sued is worthy of protection, and that thousands of physicians carry insurance to protect themselves legally and financially against malevolent people?

Did the thought ever occur to you that the physician is short-sighted who does not become an enthusiastic member of the Medical Society of the State of Pennsylvania; that this society will in the future demand what is right from the state and the individual and acting as a whole their just demands will be conceded to?

Did the thought ever occur to you that our state society should establish a home for the two extremes of life and for those incapable of affording support to themselves and to their dependents in our profession; that a yearly assessment of one dollar should be placed upon each member of our society, and that those who have ample means should give freely to this project?

Finally: The writer of these lines has already passed the meredian of life, and does not expect to profit if these thoughts are realized, but for the good of the profession which he loves most dearly, and for the good of the future profession and those it so loyally serves he has asked these questions of you. He would like the state Journal, and every county journal to copy and answer them. Will you?—J. B. C.

The Reporter, Chester.

In These Days of political reform in Pennsylvania there is a good deal of discussion of the manner in which state aid is distributed to the charitable institutions of the state. Some good people believe that no state aid should be given to any charitable institution except those under the complete control of the state, and that local hospitals should be supported entirely by local and private contributions. There is no doubt that the present system has been grossly abused, and that it is used as a means of coercing members of the Legislature, and especially country members, into a support of the policy and interests of the dominant political faction. The usefulness of a member of the Legislature is too often gauged by his ability to secure appropriations for the hospitals and other charitable institutions of the district which he represents, and if he fails to give his support to party measures the party sees to it that the hospitals in his district have their appropriations reduced or entirely cut off, and he is thus discredited in his home district.

The punishment thus falls partly on the sick poor of his district—certainly a brutal and undeserved punishment—and partly on honest members of the Legislature who can not support vicious partisan measures. We can see no good reason why the revenues of the state should not be used to care for the sick poor as well as for the insane poor and the feeble-minded poor. Indeed, viewed solely from an economic standpoint, there is more reason why the sick should be cared for than the insane and the feeble-minded, for the sick may more frequently be cured than either of the other two classes, and thus cease to be a charge to the state. A bill is now pending in the Legislature which would distribute state aid to hospitals in proportion to the amount of legitimate charity work done by these institutions. It may not be wise for the state to fully repay hospitals for their charity work; something should doubtless be left for local contributions but the system proposed seems to us a sound and wise measure and by its provisions hospitals would know in advance what they would receive and could regulate their expenses accordingly. Four years agö a committee was appointed by the medical society of our state to consider this subject and at the Pittsburgh meeting their report, which is exactly in line with the bill referred to, was adopted by the House of Delegates and is consequently the accepted policy of the state medical society. It has been accepted also in large measure as the policy of those progressive and enlightened organizations which are interested in securing better social conditions in Pennsylvania. It is gratifying to know that the state society thus becomes a leader in social reform and justifies its claim that its purpose is to benefit not only the physicians of Pennsylvania but all the people of the state.

The text of Section 4 of the resolutions adopted at Pittsburgh is as follows:—

"That the Legislature may appropriate to any hospital for a given term not more than the amount which the hospital accounts properly kept show said hospital actually expended in proper charity work in a term of the same length immediately preceding." "The state shall not appropriate money to buy grounds, to erect buildings, to pay off mortgages or ground rents, or to make up deficiencies in the maintenance account."

Roster, Columbia.

Communication from President Hower. The degree of success which our society shall achieve during the coming year will not depend upon the efforts of any two or three members no matter how earnest those efforts may be, but upon the hearty coöperation of all. When we stand at the other end of the year 1913 and review the benefits we have individually derived by reason of our affiliation with the Columbia County Medical Society, we will certainly find that they have been in exact proportion to the interest that we ourselves have taken in the meetings. A two-fold duty devolves upon every member by reason of his membership. The first is to ourselves. We owe it to ourselves to get something for our money, otherwise, we defraud ourselves. The second is to our fellow members. We owe it to them to use our best efforts to make every meeting a success, so that they may get what is coming to them; otherwise, they are defrauded. He who attends the meeting only when he is on the program, performs but half his duty to the society. A good audience is as necessary to a good meeting as a good paper. This is the time of year for good resolutions. Let us all make one for the benefit of our society.

COMMUNICATIONS.

THE UNIVERSITY OF PITTSBURGH, THE SCHOOL OF MEDICINE.

To the Editor: For the benefit of the Board of Trustees of the University of Pittsburgh and those members of the Teaching Faculty who are not able to keep in close touch with all the affairs of the School of Medicine, we have decided to send out occasionally a circular letter containing miscellaneous information that may be of interest. It is hoped that by this means those interested in the school, its accomplishments, its trials and its ideals may be brought into closer daily contact with it.

September 30, 1912, marked the opening of the twenty-seventh, and what promises to be the most successful, session of the school. By an action of the Board of Trustees last spring, our doors were again thrown open to women. The matriculation this year was as follows: Freshmen, thirty-eight; sophomores, fifteen; juniors, forty-nine; seniors, forty-four; specials, eight; a total of one hundred and fifty-three. Of this number four were women, three being special students. A canvass of the territory from which these students come develops that over ninety-five per cent. are from Pennsylvania, approximately one per cent. from Ohio, New Jersey, North Carolina, Michigan, Kansas and South Dakota. Of the number from Pennsylvania, over sixty per cent. are from Allegheny County, Washington County standing next highest in the state with six per cent.

Educationally, there is a marked difference in the personnel of the student body this year, as compared with that of a few years ago. The senior class, now composed entirely of men averaging twenty-five years in age, have all had a four-year high school course or its equivalent, and quite a few are college men. The junior class is composed entirely of men averaging twenty-three years in age, who have had a four-year high school course or its equivalent, some few, in addition, having college credits. The sophomore class, entirely men, is the first class to have entered under the advanced admission requirements of one year of college in addition to the four-year high school course, and is consequently smaller in number. Of the twenty-five who originally matriculated, but fifteen have continued thus far, four of whom have bachelor degrees, and all have had at least the required amount of college work. The average age is twenty-three years. The freshman class, composed entirely of men, numbers thirty, out of thirty-eight who matriculated. The average age is twenty-two years; there are five bachelor degrees. The special students include several women who ultimately expect to get their degrees in medicine by combining work done in the school during the regular session with that done in accredited schools during the summer term, not one of these students giving her entire time to the work. One of the men is working on the same plan, while the balance are students doing special work for special credit, attempting to catch up in those subjects in which they are deficient.

During the interval between the closing of the twenty-sixth annual session last June, and the opening of the twenty-seventh, some changes were made in the school's hospital affiliations, instructing staff and faculty. The university has been quite fortunate in securing a working alliance with the St. Francis Hospital of Pittsburgh, in which general clinical work will be given, together with the facilities already enjoyed, through alliance with the Mercy Hospital. The teaching of the specialties has been confined to the Elizabeth Steel Magee Hospital for obstetrics; the Children's Hospital for children's diseases; the Eye and Ear Hospital for diseases of the eye, ear, nose and throat; the Tuberculosis League for the studying of tuberculosis and the Municipal Hospital for the studying of infectious diseases. These new affiliations made necessary the reorganization of the clinical branches, which was effected prior to the opening of the present session. Some changes and additions were also made to the laboratory teaching staff of the school. Dr. H. H. Bullard, formerly connected with the Tulane University, of Louisiana, and Dr. O. F. Kampmeier, formerly connected with Princeton University, have become associated with the Department of Anatomy. The school library has been reorganized, and put in charge of a full-time librarian. Since September, approximately six hundred volumes have been added by presentation and purchase. The library now receives approximately thirty-two periodicals currently.

E. Dexter Pool.

Pittsburgh, May 9, 1913.

PEDICULOSIS AMONG SCHOOL CHILDREN.

To the Editor: I submit the enclosed results of some experiments on a rather disagreeable subject, thinking you might possibly see fit to make use of them. As a school medical inspector I see a great deal of this disease and, in point of time lost from school, it is by no means unimportant. In one of my schools last month various children were excluded for a total of nearly two hundred sessions on account of pediculosis. It therefore becomes a serious matter and I undertook these experiments with a hope of finding some remedy.

Hervey L. Bates.

With some excellent specimens obtained from the Harmer School, Germantown, I have recently made a few experiments to test, first, the viability of pediculosis nits on human hair after removal from the head; second, the average length of time required for a nit to hatch out; and, third, the best means of removing nits from the hair.

On March 28 a number of strands of hair with numerous nits were placed in a series of test tubes as follows: 6 in agar-agar slants; 6 with one end in bouillon; 6 in plain sterile tubes. Three of each six were placed in an incubator at 37° C. and three left at room temperature. Cotton corks were used.

In less than 24 hours one louse had hatched out in a dry sterile tube at 37°C.

Second day, all nits showed decided enlargement, especially those in the agar and bouillon tubes.

Third day, another hatched out in plain tube at 37°C. Others were still more enlarged.

Fourth day, one or two more hatched in plain tube at 37°C.

Fifth day, nits in agar and bouillon tubes showed marked swelling and vacuolation, probably from the absorption of water, but none showed any signs of hatching.

Sixth day, one partly hatched (has two front legs out of the shell-like remains of the nit), showed no signs of life. The others that hatched all died very soon afterward.

The agar and bouillon tubes all showed marked bacterial growth, probably bacillus subtilis.

Specimens of hair with numerous nits were also placed in various solutions to determine the best means of loosening and removing them.

The following solvents were used with results as noted: Dilute mineral acids: Practically no effect up to about 10 per cent., beyond which it would not be safe to use. Acid alcohol: Somewhat more effective. Xylol: Practically no effect. Acetic acid, C.P.: Practically no effect.[1] Ammonium hydroxid: Loosened nits in five minutes. Sodium hydroxid: Loosened nits in four minutes. Tincture green soap: Nits still quite adherent after 24 hours. Antiformin: Dissolved hair into pulpy mass in which the nits could still be plainly distinguished.

CONCLUSIONS.

1. Nits are viable on human hair after removal from the head.
2. Nits hatch out on an average in about four days.
3. Strong alkalies (sodium and ammonium hydroxid) will loosen nits from their attachment to the hair but these substances could not be used on the hair. Apparently there is nothing that will dissolve the nits without injuring the hair.

In view of the great difficulty in removing nits from the hair, it would seem unfair to keep children so affected out of school for more than two or three days, in which time they could make several applications of coal-oil to the hair, which kills the pediculosis and the nit also.

A thorough shampoo with a naphtha or carbolic soap or with some of the alkaline washing powders would do much toward removing the nits, not to mention the use of a fine tooth comb or brush.

AN EARLY FEE BILL.

My dear Dr. Cameron: Enclosed please find a copy of a table of charges for Medical Services, which was adopted by a group of Pittsburgh physicians in the year 1828. This copy has been taken directly from a printed sheet, which was in the possession of Dr. John McConnell, who died in 1831, and which is now owned by his nephew, Mr. W. H. McConnell of Pittsburgh.

It appears to me that this item might be of historical interest to readers of the PENNSYLVANIA MEDICAL JOURNAL. Many of the charges which were regarded as quite adequate at the time of its publication, appear ludicrous in the light of the present high cost of living. Furthermore, many of these charges appear odd as compared with one another. Thus venesection cost $ .50, while the rate for vaccination was $2.00, a sum which would be considered quite adequate at the present time.

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[1] In Philadelphia the children are told to apply vinegar to their hair after washing it first in coal oil.

A commentary upon the simple life of the profession in 1828 may be found in the paragraph which reads, "All visits after 5 o'clock, A.M. in summer, and 7 o'clock, A.M. in winter, to be charged as day visits." We of the present day are apt to take some pride in our recent growth in altruism, and yet it may be safely stated that none of us would be willing to make a first visit to the country, charging $1.00 for the first mile and $ .50 "for every succeeding do," "at any time after 5 o'clock, A.M.," even supposing that this were during the most auspicious season of the year, and upon its brightest day. Very sincerely yours,

JAMES D. HEARD.

TABLE OF CHARGES FOR MEDICAL SERVICES.

Consultation	$5.00
Written advice	5.00
First visit in town	1.00
Every succeeding do	.50
Visits to the country, for the first mile	1.00
Every succeeding do	.50
Visit at night	1.00
Attendance per hour	1.00
Ordinary delivery	8.00
Ditto by instruments	15.00
Extracting placenta	5.00
Gonorrhea	10.00
Syphilis	20.00
Stricture of the urethra	20.00
Vaccination	2.00

OPERATIONS.

Lithotomy	100.00
Hernia	50.00
Aneurism	50.00
Cataract	50.00
Esophagotomy	50.00
Tracheotomy	50.00
Bronchotomy	30.00
Extirpating mamma	30.00
Ditto smaller glands	30.00
Ditto eye	25.00
Ditto tonsils	20.00
Trepan	30.00
Hydrocele, radical cure of	20.00
Fistula in ano	20.00
Formation of artificial pupil	20.00
Hare lip	15.00
Fistula lachrymalis	15.00
Paracentesis thoracis	10.00
Ditto abdominis	6.00
Staphyloma	10.00
Varicose veins	10.00
Extirpation of movable cartilages	10.00
Ranula	5.00
Encanthis	5.00
Entropion	5.00
Elongated uvula	5.00
Phimosis	5.00
Hematocele	5.00
Nasal polypus	5.00
Imperforate anus, urethra or vagina	5.00
Reducing hernia by the taxis	5.00
Introducing male catheter	2.00
Dividing frenum linguæ	2.00
Scarifying eye	1.00
Opening abscess	1.00
Venesection	.50

AMPUTATIONS.

At the Hip joint	100.00
Shoulder joint	50.00
Of the Thigh	30.00
Leg	30.00
Penis	20.00
Fore arm	25.00
Arm	20.00
Foot	20.00
Toe	5.00
Finger	5.00
Castration	30.00

FRACTURES.

Of the Thigh, simple	20.00
Do. compound	30.00
Leg, simple	15.00
Do. compound	30.00
Patella	20.00
Clavicle	15.00
Scapula	10.00
Lower jaw	10.00
Arm or fore arm, simple	5.00
Do. compound	10.00
Nose	5.00

LUXATIONS.

Of the Thigh	30.00
Knee or ankle	20.00
Clavicle	10.00
Humerus	10.00
Fore arm	10.00
Carpal bones	10.00
Lower jaw	5.00
Thumb	5.00
Patella	5.00
Fingers	2.00

MEDICINES.

Emetic	.25
Cathartic	.25
Bolus	.25
Tinctures, per oz.	.25
Mixtures, 1 to 4 oz., per oz.	.25
Do. each succeeding oz.	.12 1-2
Decoctions, per lb.	.50
Draught	.25
Cathartic, pilis, per dose	.25
Anodyne do. do.	.50
Powders, per doz.	.75
Blister	1.00
Enema	.50
Ung. Hydrargyri, per oz.	.50
Resinosum	.25
Tartritis antimonii	.50
Opiata	.50

NOTES. All visits and attendance, in cases of operations, to be charged in addition to the above rates.

All visits after 10 o'clock P.M. to be charged as night visits.

All visits after 5 o'clock A.M. in summer, and 7 o'clock A.M. in winter, to be charged as day visits.

Adopted by the undersigned practicing physicians of Pittsburgh, November 13, 1828.

Signed,

PETER MOWRY,
FELIX BRUNOT,
JAMES AGNEW,
S. R. HOLMES,
C. L. ARMSTRONG,
W. SIMPSON,
J. P. GAZZAM,
WM. F. IRWIN,
WM. CHURCH, JR.,
JOHN S. IRWIN,
W. ADDISON,
I. CALLAGHAN,
HENRY HANNEN,
JAMES R. SPEER,
HENRY D. SELLERS,
WM. H. DENNY,
JOHN T. STONE,
THOMAS MILLER,
DAVID REYNOLDS,
J. H. IRWIN.

FROM THE CANCER COMMISSION OF THE MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.

CANCER BUGBEARS.

1. Age. Don't think that your patient can not have cancer unless over sixty. It is common from thirty to forty and may occur at any age.

2. Sex. Don't forget that gastrointestinal cancer is as common in women as in men.

3. Heredity. Don't think that your patient can not have a cancer because there has never been one in the family. For practical purposes cancer has not any connection with heredity.

4. Pain and Cachexia. Don't think that your patient has not cancer because there is no pain and the health is good. These symptoms do not come on till the later stages are reached.

Make an Early Diagnosis and Act Promptly.

BUREAU OF MEDICAL EDUCATION AND LICENSURE.

BUREAU OF MEDICAL EDUCATION AND LICENSURE.
MEMBERS BY APPOINTMENT.
JOHN M. BALDY, Pres., 2219 DeLancey St., Philadelphia.
DANIEL P. MADDUX, Chester.
WILLIAM A. STEWART, Pittsburgh.
CALVIN R. JOHNSTONBAUGH, Bethlehem.
ADOLPH KOENIG, Pittsburgh
MEMBERS EX-OFFICIO.
NATHAN C. SCHAEFFER, Sec., Dept. of Pub. Inst. Harrisburg.
SAMUEL G. DIXON, Harrisburg.

REPORT OF THE INSPECTION OF THE MEDICAL COLLEGES.

The annual inspection of the medical colleges of the state as provided for by the Medical Act was made February 13, 14, 15. It was gratifying to note that without exception each institution has shown very material advancement over that exhibited last year; three have largely improved their facilities for clinical teaching, one having added a new hospital building entirely owned and controlled by the school, two have equipped entirely new laboratories, one has rebuilt and modernized its dissecting room, two have added new and modern teaching museums, one having made very material advances in furnishing the new museum with fresh and well-classified specimens, new and modern apparatus and appliances are in evidence in all directions. Great activity was noted in the hospital wards; small classes in charge of instructors were found actively at work in all directions.

The number of full time paid members of the faculty was found universally increased, in all instances fulfilling the minimum number of six demanded by advanced requirements, in a number of cases as many as twelve.

Great improvement is noted in the teaching in the practical anatomical work, especially with reference to the study of applied anatomy. Several of the schools have arranged for new and expert teaching in preventive medicine.

All the schools have found it easily possible to conform to the rules of the Bureau regarding the number of obstetrical cases to be attended, the assistance at operations, the giving of anesthetics and the witnessing of post-mortems; the student bodies and the faculties both regard this new requirement with approval.

Three of the medical colleges of this state are associated with universities and are well equipped to teach the subjects of chemistry, biology, physics and a modern language which will be required after January 1, 1914, in addition to a four-year high school course as preliminary to entering a medical school; the independent medical schools not having such an affiliation, are arranging courses of instruction in their own institutions, covering these subjects. These courses will all be begun with the advent of the coming fall session. Thus the Pennsylvania medical schools have all cleared the way for the great steps in advance in medical education to become effective with the classes of 1914.

SOCIETIES.

PHILADELPHIA LARYNGOLOGICAL SOCIETY.

Stated meeting of February 18, Dr. Ross Hall Skillern in the Chair.

Anatomy of the Static Labyrinth was given by Dr. F. M. Strouse.

Turning Test. Dr. Herbert M. Goddard: As a result of careful experiments, Barany developed an accurate method for determination of reaction of semicircular canals to turning. In order to make the examination, patient is placed in a revolving chair and instructed to hold firmly so as to prevent toppling over. Some experimenters have patient wear dark glasses although that is not a requisite. Examiner holds a stop watch in one hand, and with other turns patient or has an assistant do turning. Turning should be made as nearly uniform as possible and should consume about two seconds for a complete turn; that is, 360°. Turning ten times usually produces the maximum amount and duration of after nystagmus.

When it is desired to examine for horizontal after nystagmus to right, we must turn patient to left. If we examine for rotary after turning nystagmus to right, patient's head is inclined 90° forward and patient turned to left; after making ten complete turns, patient is brought to a sudden stop when examiner starts watch and makes observation. Just as soon as nystagmus ceases the watch is stopped. If observations are correct the watch should record exact duration of after nystagmus. If there is any doubt it would be well to have findings proved by repeating act, providing patient is not too much affected by first experiment.

Reaction of the semicircular canals to turning is in proportion to duration of the after nystagmus. Average duration of after turning nystagmus is between 20 and 22 seconds for horizontal and between 23 to 26 for rotary.

Barany, in some 200 experiments with some normal and others with ear affection and yet not complaining of vertigo, found average duration of horizontal after nystagmus after turning ten times to left 41 seconds and to the right 39. Mackenzie in his article states he does not believe after turning nystagmus thoroughly reliable unless patient has fixed object ahead. Barany claims that duration of after nystagmus diminishes after fifty years of age. It is claimed by Barany and Mackenzie that after nystagmus varies according to number of times subject has been turned, but proportionately less where turnings are less than ten, and any greater number of turns than ten seems to diminish rather than increase duration of after nystagmus.

Barany refers to what he calls after-after nystagmus which frequently occurs in patients who have turned twenty or more times; in these cases the subject shows, first, a very pronounced after nystagmus in the usual direction, which ceases rather suddenly, followed by a small excursioned nystagmus in opposite direction to after nystagmus; that is, in direction of turning which produced it. Since we have learned the semicircular canals of one side are capable of producing nystagmus to either side, it is of importance to know just how much the after nystagmus to one side is due to the irritation of same side, and how much to irritation of semicircular canals of opposite side.

Ewald's experiments have shown that mechanical forcing of endolymph toward ampulla of horizontal canal produces nystagmus to same side, while suction produces opposite movement of endolymph and with it the opposite nystagmus. In a normal case it is impossible by turning to produce endolymph motion of one side only.

Diagnosis of Suppuration of the Labyrinth. Dr. G. M. Coates: I desire to call attention to etiology and pathology of this disease. In practically every case where labyrinth is invaded by pyogenic microörganisms, the source of infection is in the middle ear, either an acute or chronic suppurative otitis media. It is at times secondary to circumscribed or diffuse serous labyrinthitis, and is to be differentiated in its early stage from these two diseases. Once the inner ear has become infected, its pathology is similar to that of an acute, and later a chronic, middle-ear suppuration. There are two stages in diffuse suppurative labyrinthitis, the acute or manifest stage, and a chronic or latent stage. History of the case is very important. Attack begins abruptly with total deafness, vertigo, nausea and loss of equilibrium. There are no febrile symptoms or pain. Spontaneous rotary nystagmus toward the sound side is always present, lasting usually several weeks. In the Weber test, the sound is lateralized to the healthy ear, while the Rinne is negative. Total destruction of static labyrinth is shown by its non-reactability to the caloric, turning and galvanic tests, as demonstrated in other papers this evening.

Dr. G. W. Mackenzie, in demonstrating tests practiced in his examination of cases of middle-ear suppuration: I believe the subject of the labyrinth and diagnosis of labyrinthine diseases to be one of extreme importance to the otologist, in fact no one can practice otology successfully without an intimate knowledge of the labyrinth. I have with me a patient, who has kindly consented to be subject to the turning and the caloric tests. Patient has been operated on radically for chronic middle ear suppuration of both sides.

Before trying the turning test observe carefully for any spontaneous nystagmus. My method is to have the patient look straight ahead at some distant object, to relax as far as possible all tension on the extra-ocular muscles; at same time, with good illumination of the eyeball and with upper lids elevated. A casual observation for a few seconds may result in our not finding it even when present; therefore, I would suggest examining closely for a longer period to observe a slight degree which may manifest itself by movements repeating themselves, say once in every 4 or 5 seconds. Some authors make examination by having patient look to extreme left and extreme right, and comparing intensity and frequency of movements. This method is inaccurate, for spontaneous nystagmus thus produced may be purely physiologic, and if patient looks more intently to one side than other, the observer may be misled into believing that patient has spontaneous nystagmus of aural origin to the side where patient looked more intently. Concerning this point, I have frequently reproved and purpose doing so again until this method of faulty observation shall have been generally abandoned. We shall now turn the patient to the left ten times, with head erect in order to produce an after turning horizontal nystagmus to right. We find nystagmus quite pronounced and lasting 17 seconds. Therefore, we may conclude that reaction to that side is diminished. We shall try turning test to other side (rotation of patient to right), to ascertain the duration of the after nystagmus to left, which we find to be 14 seconds. Again the figures are reduced. We may safely conclude, therefore, that patient's left labyrinth is not functionating perfectly, else duration would have been nearer 24 seconds.

Let us try turning the patient ten times, with the head forward 90° in order to elicit the duration of after turning rotatory nystagmus to two sides. Again we find the figures reduced to the two sides, but more so on left, which only corroborates what we have previously found by turning patient with head erect. This test like that of the galvanic reaction test, is a quantitative one, in contradistinction to caloric test, which is purely a qualitative one. In other words, with the turning test we are more or less able to tell varying shades or intensities of internal ear affections; whereas, caloric tests tell us only of presence or absence of total loss of function.

In making the caloric test we should first ascertain by otoscopic examination presence or absence of certain conditions, which may interfere more or less with the making of the tests, for which we must make due allowance; to wit, atresia of the canal, furuncles, foreign bodies, cholesteatoma, large polyps, etc. Besides, we must observe presence or absence of spontaneous nystagmus, its direction and intensity. Let us begin by syringing the left ear with hot water, after a few minutes you notice, with patient's head erect, rotatory nystagmus to left, often appearing late as in this case after use of water. Intensity of reaction is usually less with use of hot water than with cold, for the difference between normal body temperature and the water as hot as the patient can tolerate is less than the difference between body temperature and cold water (say 50° F.). With cold water in left ear you observe a very pronounced rotatory nystagmus to right side, accompanied by some nausea. To cut short duration of this reaction we may begin to neutralize with use of hot water, which effect you observe is fairly prompt. To demonstrate that caloric reaction is due to currents of endolymph produced in canals by changing density of fluids with use of cold and heat, we shall try one other experiment.

Let us turn patient's head laterally to right; with cold water syringed into left ear you observe the patient manifests a pronounced horizontal nystagmus to left or same side; after observing it let us see what happens when we turn patient's head to an upright position; almost immediately you observe that nystagmus swings to right or opposite side and becomes rotatory in character.

Note that in all of these tests patient was directed to look straight ahead. I wish to add that nystagmus which is manifested while patient is attempting to look straight ahead is always reliable, while that which can be observed only when patient looks intently to the side is never reliable, and I would advise that you observe the same precautions.

I appreciate your calling on me and am glad of the opportunity of making these demonstrations.

Dr. B. A. Randall: I have not made a very extensive use of the various tests given here this evening, as I find them exceedingly uncomfortable to the patient, and in those cases where it is particularly uncomfortable, it is difficult to determine whether the result is obtained from hysteria or the trouble is genuine; ofttimes results are almost disastrous and I have felt restrained in using these tests for that reason.

The fistula test is one by which we are able by pressure and suction to influence the internal labyrinth. I have seen, in a hysterical condition, individuals who had never had suppuration of the ears, but who would drop over in the chair by even a deep finger pressure. So that these tests, while they are of great value, particularly in those cases where functionating power is greatly lowered, it is very important to recognize whether diseased condition remains or not.

Frederic M. Strouse, Reporter.

PHILADELPHIA POLYCLINIC OPHTHALMIC SOCIETY.

Meeting of January 9, Dr. Wendell Reber in the Chair.

Exhibition of Cases. Dr. William Campbell Posey showed a man from whom he had recently removed a large sarcoma from orbit with preservation of globe. Although it had been necessary to enlarge incision proposed by Krönlein by a horizontal one which extended below superciliary ridge and parallel to supraorbital margin to permit removal of growth, the deformity was exceedingly slight, line of incision being barely visible. A Tansley-Hunt operation had been performed some months after the Krönlein procedure, to relieve the ptosis occasioned by loss in function in the levator consequent upon division of nerve supply.

Dr. Reber called attention to excellent motility of globe and splendid position of eyeball and stated that it was the most perfect result after a Krönlein operation that he had seen. One had to hunt for scar left by the temporomalar incision.

Dr. Reber exhibited a case of a young colored woman, 18 years of age, with a violent bilateral uveitis anterior, reducing vision to about 1/60 in each eye. She had lived to the flesh with all her might and main; result, a strongly positive Wassermann reaction. The left eye had shown a very small scleral staphyloma from 2 to 3 mm. in diameter just back of upper outer limbus but it had subsided promptly on treatment. Right eye then began to develop tension with great supraorbital pain and narrowing of anterior chamber. This became so marked that a paracentesis was done with consequent prompt reduction of tension, but after a few days a scleral staphyloma began to bulge forward at lower limbus and in spite of medical treatment continued to increase in size until it was larger than the cornea itself. During this time, tension remained about minus one and patient was absolutely free from pain. Patient was seen in consultation with three or four colleagues, all of whom inclined to the diagnosis of gumma, and two were quite convinced that enucleation would become absolutely necessary. Neosalvarsan and mercurial inunctions had been used for about two weeks without any benefit. At this juncture the eye was thoroughly cocainized and three drops of absolute alcohol (95 per cent.) were introduced directly into the substance of the ectasia by means of a hypodermic needle. Within five days the ectasia was hardly in evidence and within ten days there was nothing to mark site of previous extensive staphyloma other than a broad pigmented line along lower limbus. Dr. Reber speculated upon possible conditions that existed within the ectasia, rejected the idea of gumma and thought it might have been a cystic condition.

Dr. Posey also rejected the idea of gumma, although he saw objections in the way of assuming that condition was a cystic one.

The Use of Bifocal Glasses in the Orthoptic Treatment of Strabismus in Children. Dr. Wendell Reber discussed the various theories for the genesis of convergent strabismus in little children, saying that he was convinced that the usual clinical picture was that of a weak or even entirely absent fusion sense complicated by a more or less unequal refractive error. With a weak fusion sense the accommodative apparatus of the eye easily falls into vicious habits. The correction of these vicious states of the accommodative apparatus have been made, up to the present time, by the use of practically full correction and the continuance of atropin in one or both eyes for one to three months after the glasses were put on. Two years ago he had come to the conclusion that it could do no harm to carry this idea to its logical sequence. He therefore not only ordered a full correction for infinity but to this added plus 2 to 3 D. to be made up in an invisible bifocal glass, thus setting aside practically all accommodative effort in the eyes of these little subjects, whose accommodation is so abnormally spastic. The combination of bifocal glasses and atropin in both eyes for two to three months is the most complete orthoptic method for the abolition of accommodative spasm, with its associated over convergence.

The first of such glasses ordered were made up in lenticular bifocals but they excited so much comment when worn by a four year old child and subjected the patients to such increasing questions from every interested person that the glasses were made up in an invisible bifocal. Bifocal glasses have been tried in this way in eight cases of seemingly pure functional strabismus. That is to say no congenital features present in any of the cases.

Dr. Reber has been much impressed by the excellent results achieved in these eight cases and thinks they are superior to those secured by the methods at present in vogue. One objection is that the little patients at once try to dodge the bifocal and for the first week bob their heads about a good bit but they soon learn to adjust themselves and the bifocal's good effect upon deviation seems to follow soon after. He feels that the method is well worth a trial.

Dr. Posey, in discussing, expressed appreciation of value of Dr. Reber's suggestion, and said that as Dr. Reber claimed, the removal of accommodative effort by superposition of additional spherical strength in bifocal slips was quite in line with teachings of Donders and should tend to establish as far as possible the normal relationship between accommodation and convergence which was necessary for straight visual axis. Only objection he had to offer was difficulty there might be in adjusting slips to squinting eyes. Dr. Posey was averse to glassing children younger than three years of age and decried the practice of tying the spectacles on the heads of infants with tapes, on account of the danger of pressure exerted by glasses upon root of nose, altering formation of lines of the face and interfering with proper development of orbit. He insisted upon the early differentiation of cases of congenital squint from those under discussion. He doubted if, in cases of concomitant squint, vision sank as rapidly in squinting eye as Worth has averred.

Dr. Zentmayer said that believing as he does in correctness of theory of Donders as to cause of esotropia, he considered Dr. Reber's method rational but not generally practicable in young children. Exactly the same thing has been recommended for esophoria, that is, to diminish accommodative effort at near work by addition to distance glass of a plus 2 or 3 D. lens to be worn for near work.

Dr. Pfeiffer said he had little confidence in Worth's method. Experience had shown him that it required very intelligent parents to permit following out similar plans to Dr. Reber's on children. He thought that with a lower segment, no matter how it was shaped, there attended an effort on the child's part to look around the edge to escape the more powerful glass.

Dr. Reber, closing: There is no question, as I pointed out in my opening remarks, but that these little patients have difficulty the first week or ten days in getting used to the bifocal glass. In no one of the cases has the discomfort extended beyond this time. Influence of the fusion faculty on the genesis of strabismus in little children can not be lightly regarded. It is perfectly true as Dr. Zentmayer says, that the use of a plus 2 to 3 over the infinity correction has been in vogue for some years. In the first edition of Hansell and Reber on the "Muscular Anomalies of the Eye," (1896) this method of the treatment of esophoria was gone into at some length and during these seventeen years we have resorted to method in a goodly number of cases with gratifying results. Indeed it was the success of these cases which led us to apply the above mentioned method in strabismus of little children. If object of orthoptic treatment of strabismus is to break up vicious accommodative habits into which the visual apparatus has fallen we believe this will prove to be a contribution to the orthoptic treatment of squint.

The Treatment of Dendriform Ulcer of the Cornea. Dr. W. C. Posey spoke of various types of superficial inflammation of cornea which were associated with dendriform opacities, and referred to the infrequency of dendriform ulcer in women. He had recently had under his care a number of young men with dendriform opacities, in whom a persistent conjunctivitis apparently played an important part. In treatment at first all irritation should be avoided, cauterization of cornea being resorted to only when opacity showed a tendency to spread and to resist milder measures. He preferred carbolic acid to other drugs, care being taken to limit application of crude acid to part affected. Subsequent applications of an ointment containing atropin, iodoform and vaselin relieved pain and promoted healing. He had found holocain of little value.

Dr. Zentmayer said there is a wider acceptance than formerly of view that dendritic ulcer herpes cornealis, superficial punctate keratitis and allied superficial forms of keratitis are of neuropathic origin, but he did not consider evidence sufficient to include all within this etiology. His attention to value of holocain in these conditions was called some years ago by deSchweinitz' memorandum of value of this drug in relapsing erosions of cornea and he has since used it in all corneal conditions and he thinks with decided advantage, combining a compress bandage in some forms. Finding that oil of turpentine next to solid stick of nitrate of silver was most efficient treatment for aphthous stomatitis he was led to use it in corneal ulcers and it seems to be of special value in dendriform ulcers. In a very pronounced case of filamentous keratitis which had resisted all forms of treatment he had at suggestion of Dr. Posey employed a strong yellow oxid ointment with benefit.

Dr. Sweet advocated use of holocain and drew particular attention to way in which holocain solutions seemed to vary, not only in anesthetic properties but in irritative. In his hands some solutions had seemed to be so much more irritating than the average solution that he was led to speculate on whether the chemical itself always came into market in same condition.

Dr. Reber also endorsed holocain and was not persuaded that malaria occupied the prominent place in etiology of this disorder that was once ascribed to it. Anything which induced a neurotrophic state might well be cause of dendriform ulcer of cornea. In this sense a neighboring dental or nasal disorder might easily prove to be existing factor.

Walter W. Watson, Secretary.

COUNTY SOCIETY REPORTS.

ALLEGHENY—March.

The Allegheny County Medical Society met March 18, President Boyce in the chair.

"Some Hospital and Dispensary Abuses" was presented by Dr. W. H. McCombs. This abuse plays such a part to the income of the physician that it is time we were seriously considering same with the object of finding and applying a remedy. It is within the knowledge of every physician of how he is cheated and swindled; knowingly by the patient and, unwillingly, or helplessly, or carelessly, by the hospital, dispensary authorities and staff. A few years ago, on account of the numerous mills in their vicinity, they treated numerous cases of minor surgery each year; but now these patients go to the nearest hospital or dispensary, where no questions are asked, and are treated for practically nothing. He has seen many instances where charity patients were property owners and no effort made to find out their financial status.

The establishment of baby dispensaries where treatment and milk are given free, regardless of financial standing, has been a prime factor in reducing the practice of the physician during summer months, while the diseases are just as prevalent.

There should be rigid rules governing hospitals and dispensaries, and hospital authorities and staff should be governed by them. Dr. McCombs stated that every regular licensed physician in the state should have equal privileges in hospitals, as it is extremely difficult for an outside man to get his patients into a hospital at reasonable rates and almost impossible to get a charity patient in. These hospitals should be self-sustaining and all state aid should be withdrawn from them.

Dr. A. L. Lewin read a paper on "Commercialization by the Profession." Physicians are selling their knowledge for dollars and cents and quite often so cheap as to be a detriment, not only to the profession but to patient as well. The surgical side of the house, Dr. Lewin said, had committed more sins than the medical in selling his knowledge for so much per year. He compared amounts paid by corporations and manufacturers to attorney and physician. The surgeon who gives more time and relieves the suffering is paid many thousands of dollars less than services rendered and not rendered by the attorney. He knew of only one corporation in this vicinity that pays its surgeon what he earns.

After three months' experience with such a position he found that each case treated netted him thirteen cents, and for that he had to furnish dressings. He criticized the premium-giving drug houses, hospital and dispensary abuses, unfair treatment of fellow practitioners by holding staff positions in various hospitals, lodge practices and falsifying and greed.

In closing, Dr. Lewin said, "I do not wish you to understand that I have my hammer out."

Dr. John Purman read a paper on "Commercialization by the Hospitals." A glance at the list of directors and trustees of hospitals and dispensaries will readily convince one that they are chosen from the laity for financial, social, political or business reasons and ignorant of the honor or ability of the staff, compel its members to abide by their dictations or get out. He criticized these institutions for their business attitude, sacrificing advantages of medical education and placing welfare of patients beneath every other consideration. He mentioned the disadvantages of men not occupying hospital positions and the attitude of the staff towards those who do not enjoy the privilege.

Advantages of hospital positions, as related by Dr. Purman, are many. He criticized men occupying more than one hospital position, the method of hospital advertising, which, he said, had much to do with contract work, lodge practices and open advertising. By the equitable system many of these irregular practices would be unnecessary, while the incompetent and unfair would soon find some other profession. The remedies proposed by Dr. Purman are: (1) Active voice of the medical profession in management of hospitals and dispensaries, laymen influence of a business kind reduced to a minimum; (2) equal rights to all honorable and competent physicians; (3) all unfair and special advantages interfering with development and reasonable competition among physicians must be tabooed by the society.

J. Harry Collins, Reporter.

BEAVER—March.

The Beaver County Medical Society met in Rochester, March 13, at 3:30 p.m. Dr. W. S. Strouss presided and fifteen members responded.

"Early Diagnosis of Cancer" was discussed by Dr. G. H. Wilson. He said that one eighth of all women and one eleventh of all men die of cancer and that no progress has been made in its cure in past twenty-five years, and that many cancers might be avoided by prompt attention to an ulcer, fissure, tear or injury in any part of body where chronic continuance frequently resulted in cancer. He warned all to be on guard for any signs of malignancy. One way in which cancer may be prevented is by educating druggists, midwives, nurses and any one coming in contact with patients to recognize symptoms of tumors and nonma-

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KEEPING UP WITH LIZZIE.

It must be confessed at the outstart that the title of this essay is pure plagiarism although it is intended to point a very different moral than does Mr. Bachellor in his clever satire, which is, notwithstanding, the suggester of the article. There are Lizzies whose example ought to be followed; and every one moving in the same circles ought to strive to keep up with that especial Elizabeth. The particular maiden thought of just now is medical science, rightly so called.

Is the medical profession keeping up with the advances brought about by the investigations of experimental science in connection with medical subjects? To this the surgeon replies, "Aye, aye, Sir," and points to the wonderful results obtainable since he has made use of the findings of the laboratory experiments leading to the technic of antiseptic surgery. The internist, too, is following a close second, and the clinical laboratory is now essential to every hospital; and much is done both to cure and prevent the ills of flesh, formerly beyond the skill of the leech. But how about the "all around man" who still essays the rôle of general practitioner? Is he keeping up with Lizzie? Does he always associate "malarial fever" with the mosquito? or does he, while giving assent to this modern discovery, still employ malaria to cloak his doubts of the real significance of a symptom-complex frequently observed? Is not the diagnosis of "rheumatism" often made for differing pathologic processes formerly indistinguishable?

Then again, in matters of preventive medicine, are we keeping up with Lizzie? Years ago the fomites theory prevailed and elaborate processes were employed to "disinfect" or, if this was not possible, to destroy articles. The careful experimenter has found that disease rarely is conveyed in this manner. The germs are indeed transmitted by articles of food and drink; microphytes can be carried, entangled, by insects, and they, too, can be carriers, as a host, of microzoa, but the hypothesis of transmission of disease by articles that have been in contact with the sick, stands upon little real evidence. Dr. Charles Chapin, the efficient health officer of Providence, R. I., has abandoned disinfection as a necessary procedure for some years past, keeping careful records of the results of both methods of treatment, and he finds that disinfection had little or no effect upon preventing the spread of disease. These seem to be the findings of modern experimental methods. Are our health boards keeping up with Lizzie? It is not unusual to see the statement that a school has been closed because of the presence of diphtheria among the scholars that it might be disinfected, with never a suggestion of a single throat being examined. The method undertaken to prevent the spread of this disease easily can be turned into actual dissemination of the same, for who knows how many "carriers" of the diphtheria bacillus may be among the children apparently healthy.

The question is raised whether the physician is keeping up with Lizzie in other directions. Social conditions have changed, methods of living have altered, industrial plants have been revolutionized, institutions depending upon medical assistance have multiplied, making a vast and complex changing in the entire body politic. Is the profession adapting itself to the new order of things? is it keeping up with Lizzie in these directions?

Educational standards have changed. As the invention of the air brake permits modern railroad transportation, so the invention of preparing paper from wood pulp has revolutionized the issuing of newspapers and periodicals, and the entire community has a greater fund of information than formerly; much of it erroneous, unfortunately, but used by the community as true. Is the profession keeping up with Lizzie here, or does it strive under the old ways to conduct itself in present-day conditions?

These are almost questions enough to ask in a single article. We will close with another. If the profession is not keeping up with Lizzie, why not; and, if not, ought it not? C. M.

MEDICAL EXPERT TESTIMONY.

The *Medical Record* for March 29, says:—

> The committee on medical expert testimony of the New York State Medical Society has caused to be introduced into both houses of the state legislature a bill to amend the present judiciary law in relation to examining physicians, by adding the following paragraph: "Sec. 31. Examining Physicians.—In a criminal action or proceeding or in a special proceeding instituted by the state writ of habeas corpus or certiorari to inquire into the cause of detention, in which the soundness of mind of a person is in issue, the court in which, or the judge or justice before whom, the action or special proceeding is pending may appoint not more than three disinterested competent physicians to examine such person as to his soundness of mind at the time of the examination. Any examining physician may be sworn as a witness at the instance of any party to the action or proceeding. The compensation of such examining physicians for making such examination and

testifying when certified by the presiding judge or justice of the court or judge or justice making the appointment, shall be paid out of any funds available for the payment of and in the same manner as other court expenses." This bill has been carefully drawn by an expert on constitutional law, who has taken into consideration the laws of all of the states, and it is his belief that it will stand the constitutional test. The committee of the state society, believing that the abuses of medical expert testimony have been and are shameful, hope that the medical profession of New York will endorse the bill and give it hearty support.

Mr. Kane in his excellent address before the Medical Society of the State of Pennsylvania at Scranton last September quoted Dean Wigmore as saying in his book on evidence that "much has been declaimed about the partisanship and consequent untrustworthiness of the usual professional man as an expert witness. But it does not appear that the professional man is more biased or more corrupt than the ordinary law witness." This statement brings out a fact often overlooked by those who sneer at medical expert testimony, but medical men should not be willing to be placed on a par with "the ordinary law witness." The average medical man has had superior advantages over the average law witness and he also belongs to a profession the large majority of whom have ideals higher than the average intelligent citizen. The question of medical expert testimony will never "down" until some plan is adopted by which the expert witness shall be selected by the court, by the medical profession or by some impartial commission, and paid by the commonwealth or by the party against whom judgment is rendered. The really competent and honest medical man will prefer that his pay shall not seem in any way to depend upon the outcome of the trial.

The propriety of a medical man sitting beside a lawyer in court and acting as his coach is doubtful. Certainly such service should disqualify the physician so acting from testifying as an expert witness. S.

SOME EXPERT TESTIMONY.

There are times when the result of a trial depends upon testimony regarding medical matters about which there is a difference of opinion among competent medical men, and in such cases where the life, liberty or property of an individual is at stake it is not surprising that the testimonies of physicians differ somewhat or even seem to be contradictory. It requires a wide stretch of charity, however, to believe that certain physicians from Buffalo were actuated solely by a desire to advance either medicolegal science or justice when they appeared in court in Elmira last month in an attempt to overcome the testimony of four competent local physicians who had testified in defense of a young woman's honor.

A girl of nineteen and a married man, the pianist and chorister respectively in an evangelistic party, were on trial charged with adultery. As soon as the arrest had been made it was publicly charged that the whole matter was a frame-up on the part of certain liquor interests that had been publicly criticized by the leader of the evangelistic party. After the arrest the girl was at first denied permission to communicate with her friends, was locked in a cell, searched and given the third degree instead of being at once presented to the recorder who was at liberty in the same building. The two principal witnesses against the girl were detectives from Buffalo hired by a man, who had been criticized by the evangelist, to come to Elmira and spy upon the party which was stopping at a hotel. On the stand these detectives contradicted each other, and in fact every important witness for the prosecution contradicted some one or more of the prosecution's witnesses in some point. Not a single witness testified to having seen anything of a compromising nature between the two defendants. The detectives did testify that they heard some parties supposed to be the defendants in a certain room from 11:20 A.M. until 12:05 on a certain day, and on this testimony the arrest was made thirty-six hours after the warrants were sworn out and delivered to the chief of police, against whom formal charges of conspiracy, growing out of this arrest, were made before the trial began. Many reliable witnesses testified that at the hour when the crime was said to have been committed the defendants were far from the hotel and a mile apart from each other. A man who was said to have attempted to bribe one of the jurymen to "hang the jury" was arrested at the time and place said to have been agreed upon as a meeting place, and the one hundred dollars said to have been agreed upon as the first payment was found on his person in a roll separate and apart from his pocket book. All this evidence had been widely published and evidently was known to the Buffalo physicians, who sat with the attorneys for the prosecution during the examination of the local physicians. The girl, naturally anxious to defend her honor and to counteract as far as possible the damage done her reputation, had submitted to a physical examination by four experienced local physicians, who testified that in their opinion, based upon the examination, the girl could not have been guilty of adultery.

After all this exposure and testimony the two Buffalo physicians without having examined the girl went on the stand and tried to belittle the examinations and the conclusions of the four reputable Elmira physicians, any one of three of whom has had more experience than either of the Buffalo men. The fourth Elmira physician, a woman, is no novice, having had eleven years' practice among a female clientele, graduating from the University of Buffalo only one year later than the expert from that institution. The Buffalo experts admitted that they had assisted in the formation of the hypothetical question propounded by the prosecution and readily answered by them, and they refused to express any opinion upon a hypothetical question asked by the defense. They also testified that they were hired by the same man who had hired the detectives and that to him their bill would be sent.

In justice to the medical profession of Buffalo it is only fair to give the names of these experts, Edward John Myer, M.D., Adjunct Professor of Clinical Surgery, University of Buffalo, and Lawrence George Hanley, M.D. It may be added that the jury after being out of the court room only six minutes returned a verdict of not guilty. S.

THOREMEDIN.

W. A. Pusey having criticised the claims made for Thoremedin Paste, its manufacturers, E. R. Squibb and Sons, submitted the preparation as well as Thoremedin Liquid and Thoremedin Ointment to the Council on Pharmacy and Chemistry for consideration.

In view of the report by Pusey that the property of the mixture depended on the sulphuric acid and the counter claim of E. R. Squibb and Sons that they depended largely on the thorium content and because the claims made for the other preparations depended on those made for Thoremedin Paste, the Council's Committee on Therapeutics, to which the products were assigned, decided first to take up Thoremedin Paste.

Inasmuch as it was possible, although not probable, that the emanations produced by the small amount of thorium sulphate contained in the paste might in some way affect the cauterant action of the sulphuric acid or influence the tissues after such cauterant action had ceased, the referee believed it necessary to make some clinical trials as to the effect of thorium in such a sulphuric acid mixture. He therefore requested the A. M. A. Chemical Laboratory some cloudiness and a gelatinous precipitate it indicates seminal vesicles. The two latter conditions can be easily substantiated by massage per rectum and noting changes in collected secretions. If bacterial condition will permit, sounds or bougies may be introduced and tissues palpated to determine roughened or ulcerated spots; the endoscope should then be introduced and character of the tract and its mucosa carefully examined that treatment may be properly directed to diseased tissues. Regarding treatment, the first principle is to rid infected area of gonococci if present; many remedies have been used but the favorite one of essayist is protargol one per cent. gradually increased until silver nitrate one per cent. is tolerated. Use of vaccines and phylacogens in chronic urethritis has been almost entirely void of favorable results. As for internal treatment the use of salol and atropin is of most value.

Discussion was opened by Dr. Falcowski who said this subject was too much neglected by the general practitioner; that in his eight years as a member of the society this was the first paper dealing with the subject he had known to be presented, probably because the average physician did not care to treat this class of cases and that as a result of being spurned by those to whom he turned for aid the average man sought the quack or charlatan, the dispensing druggist or the patent medicine fakir, only to find in the end that he had been fleeced. He called attention to the fact that chronic urethritis frequently gave a pain referred to the right side, simulating appendicitis, and that he had known several such cases to have been operated upon to find only a normal appendix. The use of vaccines and phylacogens had also been particularly useless in his treatment of this class of cases. Other members who entered actively into the discussion were Drs. Heston, Roose, Murrin, and Garvey. Harry W. Albertson, Reporter.

LANCASTER—February.

Sixty-five members, friends and guests of the Lancaster City and County Medical Society were present at the annual banquet, February 5, at the Hamilton Club. Dr. T. B. Appel as toastmaster introduced President Miller, who gave a toast "The City and County Society." He reviewed the history of the society from its origin in 1844. The society through the agency of its official publication can do an immense amount of good and the members should make free use of its columns. The last decade has seen great advances in medicine and surgery and great praise is due the laboratory workers, such as Ehrlich and Wright. Wonderful strides in surgery have also been made. Preventive medicine has undergone a transformation and in our own community typhoid fever is gradually on the decrease. In the matter of infectious diseases, education is the rational means of prevention. Lectures to school teachers by members of the profession should be encouraged. People should be educated to give money to promote study and research work. Carrel was able to complete his investigations through the generosity of one man. In concluding, Dr. Miller called attention to the fact that more money was spent to prevent fires than to prevent disease.

Dr. Hobart Hare called attention to the fact that the interest in therapeutics was as keen as ever. He deplored that in the past the subject had not been properly taught in colleges. Men were taught that certain drops cured certain ailments, rather than that each drug has a definite physiological action. In any disease, look for the cause and treat it. Medical organizations differ from those of ten years ago in so far that too little attention is paid to selection of delegates to the state society and likewise the state society is careless in its selection of delegates to the American Medical Association. Select men of experience who know the needs of the society and above all keep the society out of politics.

Dr. Henry H. Appel, President of Franklin and Marshall College, spoke for a more liberal education in connection with medical education. In so far as colleges laid the foundation they are anxious that requirements be high. Dr. I. C. Gable of York gave a general health talk, reviewing the work done by the State Department of Health. Other speakers included Dr. John L. Atlee, John Newman of the Lancaster bar, and Mayor Frank B. McClain.

Walter D. Blankenship, Reporter.

LUZERNE—February.

At the meeting of the Luzerne County Medical Society, February 12, Dr. R. L. Wadhams read a paper on "Flat or Weak Foot." The condition is frequently overlooked, symptoms being ascribed to some other cause. Diagnosis was carefully considered, and the treatment advised was a properly fitting steel brace, so adjusted that it will furnish a support for instep and also prevent tendency to valgus which is present in the most marked cases. For the milder forms, the ordinary brace, found in the shoe shops, if properly fitted may be all that is necessary, but severer forms will require an accurately fitted brace which is best made to conform to outlines of a plaster cast of the foot after the method of Royal Whitman.

At the meeting held February 26, a paper was presented by Dr. Daniel W. Collins of Wilkes-Barre, on "Ulcer, Gastric and Duodenal." As etiological factors he considered (1) a stimulating dietary producing gastric hypersecretion; (2) a loss of the nutritional balance of the mucous membrane due to vascular, nervous or traumatic influences; (3) bacterial action or cytotoxins. The pain occurs almost immediately after eating, is of a boring, burning character, and epigastric. It shows a distinct periodicity and is relieved by alkalies, or vomiting. Vomiting usually follows the pain, and as a rule consists of a considerable quantity of sour, watery fluid containing particles of food. Hemorrhage is the least frequent symptom, but of marked diagnostic importance when present. Diagnosis depends upon symptoms, upon persistent presence of an excess of free hydrochloric acid in stomach content; upon evidences of pyloric obstruction, and finding of occult blood in stools.

Medical treatment is absolute rest in bed for six weeks administration of bismuth and an unirritating, bland diet. Treatment becomes surgical when symptoms continue after three months of medical treatment. Posterior gastroenterostomy is considered the operation of choice in absence of malignancy, and, after considering the mortality of this operation, writer concludes that operations in this field should be performed only by those having special training. Day of specialism in surgery has arrived. It is not alloted to all men to be surgeons, although there are many operators.

"The Doctor, the Child Patient and Society" was presented by Dr. Sarah D. Wyckoff. Paper referred to unique and intimate relationship between doctor and patient, and his opportunity to reach and study origin of physical and social problems; his great privilege for bettering patient, and thus society and state; advance in medical knowledge and skill; modern physician's realization of importance of seeking cause and not treating symptoms except for temporary relief, and that it is his duty to note condition of eyes, ears, teeth, and presence of mouth breathing and to see that a specialist is called in where necessary. He should also note the mental condition,prevent spread of contagious disease, and teach the proper method of living, and prevention of disease by establishing normal daily life for child in its home surroundings, especially regulating hours of sleeping, the food, fresh air, apparel and play.

Particular stress was laid upon diet of child, the fact that most children are improperly fed. Majority of school rooms are overheated and badly ventilated and the writer cited in evidence the unusually high death rate from tuberculosis among school teachers. School is proper place for instruction in hygienic living, proper breathing, correct observation and training the memory. Adolescence is recognized as age of idealism, as golden time to instill high motives of thought and action, to distinguish between right and wrong.

HERBERT B. GIBBY, Reporter.

MERCER—MARCH.

The Mercer County Medical Society met at Greenville, March 14, with a fair attendance. Dr. A. J. Mitchell read a paper on "Chronic Gastric Indigestion in Children." He discussed the causes, pathology, symptoms and treatment, and impressed upon the members that each and every one could do more for these cases if they would spend a little more time in studying them after making a thorough examination of the child, the stomach contents and the feces. He emphasized the fact that many sick children are often overfed. The members present discussed the subject at length.

P. E. BIGGINS, Reporter.

MONTGOMERY—FEBRUARY, MARCH.

At the meeting of February 19, Drs. Swalm and Potter demonstrated by means of the microscope different urinary sediments, almost all classes of casts being demonstrated. Dr. Howard Pyfer read a paper on "Curvature of the Spine." His classifications were (1) scoliosis, lateral curvature; (2) kyphosis, posterior curvature; (3) Pott's disease, anterior curvature. The treatment of the first three forms should be gymnastic, training body to bend opposite direction, and very rarely should supports or casts be used. Dr. C. H. Wann spoke on Dr. Abbot's apparatus which consists of a frame upon which child is stretched and deformity is overcorrected by pads which are gradually removed until body assumes its normal position.

At the open meeting of the Montgomery

County Medical Society, March 19, many were present, including ministers, teachers, school directors and superintendents. Dr. Martin H. Barr of Elwyn spoke on "Eugenics and Possibilities of Development in Mental Defectives and the State's Care of Them." Dr. H. H. Carey of Spring City cited many cases causing the state immense expense. Mrs. Ruth Wanger of the Carnegie Institute spoke on "How the Statistics are Obtained and the Work of the Institute."

After the meeting Dr. Pyfer invited all to his home for a banquet.

Edgar Stanley Buyers, Reporter.

PHILADELPHIA—January, February.

The Philadelphia County Medical Society met January 22, with President Codman in the Chair. Dr. B. A. Thomas read a paper on "Modern Genitourinary Diagnosis and Treatment, with Reference Especially to Laboratory Methods," which was a discussion of merely the more important advances diagnostically and therapeutically that have marked the progress in recent years of genitourinary surgery from the laboratory and endoscopical standpoints. The urogenital system is considered in turn under its anatomical parts, the urethra, the prostate and seminal vesicles, the vasa deferentia, epididymides and testicles, the bladder, the ureters and the kidneys, with an appendix delegated to syphilis. Irrespective of the routine bacteriological and cytological examination of every urethral discharge there should be an imperative obligation to investigate immediately, definitely and precisely the source of any urethral discharge, whether blood or pus, not known absolutely to originate from the urethra. The seven glass test is of value in absence of cystoscope and urethroscope.

Differential diagnosis between gonorrheal and nongonorrheal inflammation of urethra rests ultimately upon bacteriological study. The eosin-azur stain in my opinion is most meritorious. In the future it seems logical to infer that more may be expected of gonococcus complement-fixation test gynecologically and also relative to cure and the matrimonial fitness of candidates. Therapeutically, in acute gonorrheal urethritis and in the common complications other than synovitis and arthritis, gonococcus bacterin has proved of little or no value, although we are as yet unprepared to express final opinion as to its possible value in lessening stricture formation. In joint complications and vulvovaginitis of children it has been signally meritorious. I believe its failure in treatment of prostatitis, seminal vesiculitis and epididymitis is because these complications are almost invariably the result of superimposed mixed infection.

Antigonococcic serum, prepared in accordance with the work of Rogers and Torrey for treatment of synovitis or arthritis and systemic gonorrheal involvement, is the remedy *par excellence*. It has been my experience that much may be expected from proper employment of autogenous bacterins in many cases of suppurative prostatitis and seminal vesiculitis. In diseases of the vas, epididymis or testicle, laboratory methods, other than histopathological, have little to offer with respect to diagnosis and treatment of affections of these organs. With use of tuberculin diagnostically I have never been misled. The bladder may be regarded as the bureau of information for tuberculosis of the urogenital system. The cystoscope is the invention that has accomplished most in urology. Of the many types my preference is for the water cystoscope constructed on the evacuation-irrigation principle with indirect vision lens and prism system.

Primary disease of ureter very rarely occurs. Usually the lesion is secondary to some renal, vesical, urethral or extraureteral condition. Of the many devices for detection of stone in ureter the best is the wax-tipped ureteral catheter or bougie. Certain conditions, as pyelitis, with or without cystitis, and pyonephrosis, have presumably been cured with autogenous bacterins, always, however, in conjunction with other well-recognized measures of merit. Tuberculin is useful diagnostically and therapeutically in tuberculosis of kidney.

Treatment of syphilis at present is purely empirical. We have, however, in Ehrlich's preparations the promise of remedies of paramount importance.

The Philadelphia County Medical Society met February 12, at 8:30 p.m., President Codman in the Chair.

Dr. H. M. Christian gave a review of the most recent work by a foreign author on "Genitourinary and Venereal Diseases."

"The Reflexes and Neuroses of the Rectum and Anus" was presented by Dr. Collier F. Martin. By demonstrating local lesions, pathological changes in spinal cord, lesions of sympathetic ganglia and interferences with reflex arcs, we are able to interpret many symptoms associated with the rectum which before were inexplicable. Contrary to teaching of most textbooks on proctology, but in accord with views of anatomical authorities, the rectum proper receives no innervation from spinal nerves. According to Piersol, the visceral branches are really white rami communicantes, derived from second and third or third and fourth sacral nerves, and are distributed to the pelvic viscera by way of the pelvic plexus of the sympathetic. Upper portion of rectum and pelvic colon are supplied by branches from inferior mesenteric plexus which in turn is derived from left portion of aortic plexus. On the other hand, the external sphincter, the skin of the anal canal and the peri-anal region, and the levator ani muscles have a spinal innervation, derived from the third, fourth and fifth sacral, and the coccygeal nerves.

The view is experimentally borne out that the innervation for both automatic rectal and automatic vesical functions is situated in the sympathetic system. As the spinal innervation to the anorectal region extends only to the anorectal line or dentate border, this becomes an important landmark in the consideration of rectal symptomatology. My own experiments have failed to demonstrate that any pain or tactile sensations extend above this line. That the rectal wall itself contains no direct spinal nerve representation seems evident from the absence of sensation when the stimuli are confined to the rectum. While pathologic conditions causing peripheral nerve disturbances produce many changes in the tonicity of the sphincters, diseases of the central nervous system have even a more pronounced influence upon rectal and anal reflexes, and upon sensory, motor and secretory functions. By far the most important symptom occurring in cases of central nerve disease, from the proctologic standpoint, is constipation. This condition is produced by alterations in the visceral nerve supply, causing disturbance of the sensory, motor and secretory functions. Laxatives, massage and electrical stimulation are of great value in treating this condition.

"Some Good Results in Inoperable Carcinoma of the Breast by Means of the Röntgen Rays" was presented by Dr. George E. Pfahler. Several patients were shown and reports given upon twelve inoperable cases of carcinoma of the breast which are all of this class he has treated. Relief of symptoms was obtained and large ulcerating carcinomas disappeared under the action of the rays. Treatment extended from several months to a year or more. The following conclusions have been reached: (1) In inoperable cases of carcinoma of the breast *x*-ray treatment offers a reasonable hope of relieving the patient of symptoms of the disease, prolonging life and possibly causing complete disappearance of the disease. (2) Patients have been relieved of the symptoms of the disease for from one to eight years. (3) No other method of treatment has ever accomplished as much in this class of patients. (4) A careful mastery of good technic is essential to success.

Howard Childs Carpenter, Reporter.

WASHINGTON—March.

The Washington County Medical Society met March 11, with thirty-six members present. The optometry bill was discussed and a resolution adopted protesting against its passage. A committee was appointed to draw up resolutions of respect for the late Dr. Carey who was one of the early members of the society.

"Serum Diagnosis in Infectious Diseases" was presented by Dr. L. C. Honesty of Washington, who spoke of the remarkable work of some of our investigators along this line, giving special mention of German workers, and remarkably clear exposition of the Widal reaction in the presence of the typhoid bacillus, and the Wassermann test for syphilis. In the speaker's opinion the serum diagnosis was at present of most use in the diagnosis of typhoid fever, syphilis and tuberculosis. Dr. Honesty is a practical laboratory man and his talk was instructive.

Dr. J. B. McMurray of Washington read a paper on "Vaccines in the Treatment of Infections." He had obtained information by writing to several of the more prominent men regarding the use of vaccines, and read reports to his inquiries from Drs. John B. Murphy, John B. Deaver, Albert J. Oschner, Carl Beck, Wendell Reber, Howard A. Kelly, Forscheim, and Crile's clinic. The almost invariable reply regarding relative value of stock and autogenous vaccines was in favor of the autogenous, and nearly all report marked benefit from their use in properly selected cases, with emphasis on "well selected."

According to writer the place for vaccines is in those infections which are chronic, in which there are not sufficient antigens offered the antibody-forming cells to insure neutralization of the toxins or to overcome the bacteria by the presentation of sufficient opsonins, bacteriotropins, and antiaggressins for rapid and complete phagocytosis.

In cases where it is possible to antedate the appearance of the symptoms of infection by the injection of bacterins that are active, immunity may be produced by having the body fluids surcharged with receptors, and the sessile and migratory cells, wherever located for the particular infection, so stimulated that they will continue to offer receptors or opsonins in abundance, as in the Pasteur treatment of rabies. Active immunization in the absence of infection is shown by vaccination against smallpox.

Clinically the vaccines are most useful in chronic cases; seldom in the acute. Best results are obtained in bone tuberculosis, osteomyelitis, in gonorrheal arthritis, in chronic gonorrheal infections of the peritoneum, colon bacillus infection of the urinary tract, tubercular cystitis, chronic staphylococcic infections of the skin, in chronic suppurative otitis media, and in chronic suppurative sinusitis. Much depends on the amount used and, in the writer's opinion, a great deal is yet to be done in working out practical rules for guidance in their use. Frequently too large a dosage is administered, thus defeating the end sought.

Dr. C. B. Wood talked on "Prophylaxis by Serotherapy" along general lines, reporting his hospital experience with some of the sera. His experience with tetanus serum had been particularly disappointing; probably one reason was that many of the emergency cases received at hospital did not seem to be in danger of developing tetanus. In his opinion they had formerly used a dosage much too small to be productive of beneficial results.

J. W. Hunter, Reporter.

YORK—March.

The York County Medical Society met March 6, at 1 p.m., with President Fackler and forty-six members in attendance. The practical application of the pulmotor was demonstrated by Mr. Philbrick, of the York Gas Company, who explained its wide field of usefulness. By a rising vote of thanks, his courtesy was acknowledged, as was his statement that the pulmotor, as well as an operator, would be at the service of any physician, absolutely gratis.

Dr. F. H. Baetjer addressed the members on "The X-Ray in Its Relation to Medicine and Surgery." He employed lantern slides to demonstrate chiefly its diagnostic value. He laid great stress upon its dangers and emphasized the fact that none except skilled experts should employ it either in diagnosis or treatment. As a therapeutic agent its value lies chiefly in the treatment of superficial lesions, and even epitheliomata which are in close approximation with the rich lymphatic channels should not be exposed, owing to the great risk of metastasis. X-ray treatment acts in three stages, (1) stimulation, or increased cell division; (2) cell inhibition, or destruction of the cell power to create, and (3) cell destruction. In malignant growths, surgery should always be employed first, and the *x*-ray afterwards. In these cases, as well as inoperable cases, it acts as an excellent analgesic. It is practically valueless in deep-seated conditions. It is of great use in the treatment of practically all skin diseases, except those of constitutional origin, notably in acne, eczema, and psoriasis. In an experience of over fifteen years, he has never failed to cure a case of acne with its use.

Its largest field, however, is in diagnosis, and this field is rapidly growing owing to the perfected apparatus. The examination of the chest is best carried out by the fluoroscopic method. This is a more or less dangerous thing. In his work at Johns Hopkins University, Dr. Baetjer has detected annually about three per cent. of aneurysms that had escaped detection by other methods. Pathological lesions in lung can be detected earlier than by the clinician, but etiology of these lesions can not be definitely stated. It is of greater value in diagnosis of gastrointestinal lesions than elsewhere; made possible by use of bismuth preparations. Gastric and duodenal ulcers, various ptoses, dilated cecum, redundant colon, adhesions, etc., are easily diagnosticated. The *x*-ray is also of unlimited value in detecting various lesions in genitourinary tract; collargol is frequently employed as an adjunct. The doctor was given a rising vote of thanks and elected to honorary membership in the society.

The following committees were appointed: Public Health and Instruction, Drs. Comroe, Long, Rea, Eisenhower and Fackler; Illegal Practice, Drs. Eisenhower, Long and Holtzapple; Draft Amendment to By-Laws Referring to Uniform Payment of Dues, Drs. Alleman, Gable and Bittenger. The society went on record as favoring the Walnut Child Labor Bill and the Walnut Woman's Labor Bill, and also as opposing the Optometry Bill.

Julius H. Comroe, Reporter.

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ORIGINAL ARTICLES.

THE RELATIONS OF THE GENERAL PRACTITIONER TO THE DEPARTMENT OF HEALTH. HOW THEY MAY BE MUTUALLY HELPFUL TO EACH OTHER.

BY T. BEN JOHNSON, JR., M.D.,
Towanda.

(Read before the Bradford County Medical Society, April 8, 1913.)

In the presentation of this paper to you I desire to state that very little credit is due to me personally for the facts which will follow. Most of the information has been upon record in the Department of Health of the State of Pennsylvania for some time past and has been either directly or indirectly published in the *Pennsylvania Health Bulletin* from time to time and also in extracts which are to be found upon file in the various offices of the department and in the counties in which branch offices are located. The only credit which I might assume is that of the compilation of the facts which are to follow and trust that some of the points, at least, will be of interest and value to all of us.

The first duty of every physician is that of relieving suffering and human ills; second, that of preventing them if possible. But if such cases, and especially communicable diseases, do exist or have been existent, it is our duty to try to the best of our ability to prevent or at least retard the spread of such diseases. It is not and has not at any time been the aim of the department to dictate in any way to the general practitioner, but simply to explain to him the exact interpretation of the law, especially with reference to the act of May 1, 1905. In this latter connection, the attention of physicians throughout Pennsylvania is hereby directed to the provisions of the Act of Assembly, approved May 1, 1905, entitled, "An Act to provide for the immediate registration of all births and deaths throughout the Commonwealth of Pennsylvania, by means of," etc., as well as to the Act of May 14, 1909.

It will be noticed that, under the operations of the 1905 Act, a proper certificate will be required for each and every death occurring at any point in the state and in the townships as well as in cities or boroughs. The special specifications of these certificates we all know contain the information which has to be supplied by the physician in attendance; the more immediate facts are time of death and time last seen alive, also the exact cause of death, including the primary and immediate causes and contributory causes, or complications if any, and duration of each. Indefinite and unsatisfactory terms, indicating only symptoms of disease or conditions resulting from the disease, will not be held sufficient for issuing a burial or removal permit and any certificate containing only such terms as defined by the state registrar, shall be returned to the physician for correction. Causes of death, which may be the result of either disease or violence, shall be carefully defined and if from violence its nature shall be stated, and whether probably accidental, suicidal or homicidal; and in case of deaths in hospitals, institutions or away from home, the physicians shall furnish the information required under this head and shall state where, in his opinion, the disease was contracted. The source of all such information concerning the causes of death is the medical attendant, and his statement forms the foundation for the working of classification and analysis. We should all, therefore, be as plain and definite as possible. Our local registrar is prohibited by law from issuing a burial or removal permit for the body of any deceased person until a complete and satisfactory certificate and return of the death has been filed with him. This, as you may see, places the responsibility for making the return in proper form squarely upon the medical attendant and naturally gives rise to the question as to what constitutes a completesatisfactory certificate and what are to be considered as indefinite and unsatisfactory terms. Such a list may be found in the report of the Bureau of Vital Statistics, 1907, pages 7 to 27.

A moment's thought and consideration by the physician or a reference to this table in stating the cause of death will save much trouble and be much more accurate; at times it may seem almost impossible to classify the cause of death under this list of titles, yet on the other hand, it represents the most rational basis for statistical analysis based upon the present status of medical knowledge. If such a case occurs, then it is to be reasonably expected that the cause of death as it appears to the medical attendant should be stated plainly and concisely. Statistics, in order to have any value, must be correct and when it is understood that the greatest value to be derived from death statistics is the knowledge gained from the analysis of the facts contained in a large number of accurate returns, and when it is further understood that it is upon the statement of the medical attendant that the compiler must absolutely depend for a proper classification of the death, then we may realize the extremely important relations of the physician to mortality statistics and the extent of his responsibility to supply full and correct information as to the cause of death in each individual case. It is extremely desirable that as few certificates as possible shall need be returned to physicians for additional information as to the cause of death, and for this reason the use of ambiguous or uncertain terms or the use of symptoms such as "dropsy" or "araemia" should be made when the disease causing death can be stated. One of the sections of this act further provides that "stillborn" children, or those dead at birth, shall be registered as births and also as deaths and a certificate of both birth and death shall be filed with the local registrar in the usual form and manner, using the name "stillborn," and the cause of death stated also, for the name of the child. It might be remembered, however, that premature birth should be mentioned and, if such is the case, the period of uterogestation in months if known. All children dead at birth shall be designated as stillborn. If any life is manifested after birth, then the use of this term shall not be permissible. The term stillborn shall be applied to all children which have passed the fourth month of uterogestation.

Section 13 of the Act recites that "it shall be the duty of the attending physician to file a certificate of birth properly and completely filled out, giving all the particulars required by this act. with the local registrar of the district in which the birth occurred within ten days after the date of the birth." This is an exceedingly important section. The collection of birth statistics has been heretofore notoriously incomplete in our larger cities, and absolutely wanting in our rural districts. To ignore these statistics is to disregard entirely the source from which our population is renewed, and the obligation placed upon the physician, to supply the information from which definite conclusions may be made, is plain and emphatic, and leaves no available excuse for failure to do so.

Section 16 of the Act requires that "every physician shall without delay register his or her name and address with the local registrar of the district in which he or she resides, or may hereafter establish a residence." This is important for the reason that the names so registered will serve as a guide to the local registrar in determining the authority of those who may be entitled to issue and record death and birth certificates.

Section 22 of the Act provides that the neglect or refusal on the part of the attending physician to make out and deliver to the proper person, upon request, the medical certificate of the cause of death as prescribed in this act, shall constitute a misdemeanor punishable upon conviction therefor by a fine of not less than five dollars nor more than fifty dollars. The knowingly making of a false certification of the cause of death shall constitute a misdemeanor, punishable upon conviction therefor by a fine of not less than fifty dollars nor more than two hundred dollars.

Failure on the part of the attending physician to file a proper certificate of birth with the local registrar within ten days of the date of birth shall constitute a misdemeanor, punishable upon conviction therefor by a fine of not less than five dollars nor more than fifty dollars. Violation of any of the other provisions of this act, or neglect or refusal to perform any of the duties imposed by it shall constitute a misdemeanor punishable upon conviction therefor by a fine of not less than five dollars nor more than one hundred dollars.

These certificates of births and deaths, after being properly filed by the local registrar and a copy of each and every one made for his records, are then sent to the Bureau of Vital Statistics at Harrisburg for filing and are then, with some additions upon the part of the state registrar, the permanent records from which our state statistics are obtained. Therefore, it is easy to see of what great importance each and every one of these certificates is, to all concerned.

In the *Pennsylvania Health Bulletin* for February, 1911, we find an article entitled, "Some Duties, Ideals and Opportunities of the Country Doctor," which goes on as follows:—

> The watchword of to-day in every branch of human activity is organization. The first step toward winning popular recognition is coöperation. The physician, very soon after entering upon professional life, discovers that he has three especial relationships, that with the public whom he hopes to serve and on whom he depends for support, that with his fellow physicians whom he should regard as friends and colaborers rather than as rivals and with whom he must frequently consult, and that with the state which by conferring upon him a most valuable franchise has acquired the right to receive from him certain valuable information which he and he alone can furnish. Each of these relationships carries its own peculiar duties. All of them involve problems which it will be to his advantage to study not by himself but in collaboration with his fellows. It is this fact which gives its importance to the county medical society. If this form of association is an aid to the physician beginning practice in the city, to a still greater extent does it help the country doctor. The interchange of ideas and comparison of experiences which these meetings at regular intervals afford are a constant stimulus. They prevent his mind from growing rusty, and at the same time afford opportunities for becoming socially acquainted with his professional brethren. When physicians regardless of specialties or cliques gather together for the discussion of medical topics and for social intercourse, the broadening of the individual mind and the effacement of all lines other than those defining scientific medicine, as well as the promoting of fraternalism are sure to result. The first duty therefore of the young country doctor is to join his county medical society as soon as he becomes eligible, to contribute to its scientific and intellectual activities and lend his influence to maintain a high standard of decorum and ethics in the intercourse of the members. The introduction of personalities into discus-

sions, the formation of cliques and the entire influence of the society should be for the advancement of the profession and the promotion of the public health. Especially should the requirement of the government for the reporting of diseases and of vital statistics be sustained. For we are looked upon in a somewhat different light from the members of any other calling or profession. Our very act is expected to be of high moral character, and we are looked to to set a good example to others in ready obedience to the laws of the commonwealth. People seem to forget that the doctor like every citizen has to provide the necessaries of life for himself and family, and look upon us almost in the light of charitable institutions. The doctor who will not respond to every call for the relief of suffering humanity, in whatever weather, at whatever hour of the day or night, at whatever cost to himself and no matter how small the chance for compensation, is regarded as little better than a brute. Not even from the clerical profession is such complete self-sacrifice expected. Greatly to the credit of our forefathers in the profession is it that such a standard of lofty devotion to duty and unselfishness should have been set for us and it should be our constant aim to live up to it.

This reputation, however, is unfortunately being discounted to a greater extent to-day than at any previous time. There is too ready a tendency to reduce the conduct of professional affairs to a purely commercial basis and to be governed more by trade practices than by professional ethics, although it is certain that the great majority of our members are men of high moral principle, men of educated and cultured minds and men willing to take more than their fair share of the philanthropic work that must be done for the unfortunate. Our aim both in the country and in the city must be to maintain our standing in the community as a profession and not a trade. Appreciating the difficulties which beset the country doctor the State of Pennsylvania has come to his aid in his daily work to a greater degree than any other state in the Union and possibly than any country in the world. Until the establishment of the laboratories of the State Department of Health in 1906, the practitioner in the country and the small town was at a serious disadvantage as compared with his city rival in the matter of diagnosis as aided by chemical and bacteriological tests. Comparatively few were able to maintain well-equipped laboratories of their own, and fewer still probably possessed the necessary knowledge and were sufficiently in training to be able on the moment to make tests of this kind themselves. In the year mentioned, however, the Department of Health through the generosity of the University of Pennsylvania was furnished a laboratory building and was enabled to offer to all physicians of the state, practicing outside of municipalities having laboratories for the same purpose, laboratory facilities for the diagnosis of certain morbid conditions and the detection of obscure sources of disease, and announced publicly to the profession its readiness to make examinations in the following suspected conditions:—

Tuberculosis: An examination of sputum, pus, exudates, feces and urine for the presence of tubercle bacilli. Attention was called to the fact that in probably no other affection does recovery as well as the safety of the patient's associates depend to so great a degree upon a correct and early diagnosis, and also that, on the other hand, "the examination of the sputum in chronic pulmonary conditions simulating tuberculosis will often clear up the diagnosis of, for example, unresolved pneumonia, bronchitis of nontuberculous nature and various degrees of atelectasis."

Typhoid fever: An examination of the blood by the Widal test and an examination of the urine for Ehrlich's diazo reaction.

Malaria: An examination of the blood for the presence of the malarial plasmodium.

Dysentery: An examination of the feces for the presence of dysentery bacilli or the ameba dysenteriæ.

The theory and technic of each of the preceding tests was carefully described.

Parasitic intestinal diseases: An examination of feces for the presence of characteristic parasites or their ova.

Morbid growths: An examination of sections of tumors or the products of the infectious granulomata, obtained either during life or at postmortem.

Pathologic fluids: An examination to determine the specific organism.

Three separate outfits were at the same time prepared for taking specimens and careful instructions formulated and distributed showing how this should be done.

Since November, 1906, when the laboratory first got into working order we have examined and reported 17,912 specimens of water used for drinking purposes, giving in each instance the bacterial count and the *B. coli communis* determination; 23,810 sputum examinations, with very few exceptions made for the purpose of diagnosing tuberculosis; 650 specimens of pathological growths, including carcinomatous and other tumors either removed by operation or at the autopsy; 371 specimens of pathological fluids, including pus, peritoneal fluids and the like; 722 specimens of urine including bacteriological examinations (for typhoid fever, tuberculosis and special infection), diazo and some routine urinalyses for the tuberculosis dispensaries; 214 malarial blood examinations; 1949 Widal blood examinations for determining the diagnosis of typhoid fever; 220 specimens of feces including tubercle bacilli, parasites, typhoid fever bacilli and pieces of tissue; and 2957 miscellaneous specimens including specimens of diphtheritic membranes, making a total of 48,760 examinations. We have given prompt expert opinions on suspected cases of smallpox and other infectious diseases whenever called upon. Through our tuberculosis sanatoriums and dispensaries we have distributed 2,564,056 quarts of milk and 336,889 dozen eggs to poor patients.

We have placed at physicians' command at 650 stations widely distributed throughout the state and at convenient points, the diphtheria antitoxin so that they have been able to save the lives of their patients whose pecuniary circumstances were such that they would otherwise have been unable to avail themselves of this, the only known cure for that disease. There is reason for believing that, before the government provided that biological product, many physicians more than once paid for it out of their own pockets rather than see the children of indigent families die of that terrible disease.

Moreover we have just introduced 58 stations from which can be obtained antitetanic serum for poor patients. To aid the doctor in preventing death by lockjaw is a blessing which he, in common with the public, must appreciate, as it is a death which everyone dreads to witness.

The department also furnishes the profession with instructions for the sanitary precautions to be exercised by those in care of persons suffering from the various communicable diseases. These are designed for distribution in the families of patients, for the instruction of parents and nurses and are furnished free of expense.

Now what does this provision in various directions mean to the country physician or practitioner? It means that he no longer need feel himself at a disadvantage as compared with his city rival. It means that scientific medicine can be practiced in the most remote and secluded corner of the state with almost as great a degree of promptness and certainty as in the crowded city. It means that instead of groping in the dark for a diagnosis the microscope of the expert will be placed at his disposal to unravel a knotty problem and even that, under circumstances of unusual danger to the community, the expert himself will be transported to the scene of action free of all expense to the patient. More than that it means that he need no longer be compelled to see a patient die in the pangs of tetanic convulsion or the suffocative spasm of diphtheritic croup because the parents are too poor to purchase the life-saving sera.

Availing themselves of the opportunities afforded by the Division for the Distribution of Biological Products, physicians in the rural districts have, since the system was inaugurated in October, 1905, up to December 31, 1909, treated 20,794 cases of diphtheria, and administered the serum for the purpose of immunization in 15,125 instances. Of those immunized only 257 acquired the disease and the number of these who died was so trifling as scarcely to deserve mention. It is not an extravagant estimate if we claim that during those four years 8000 lives were saved by this measure alone.

Probably no class of his patients rests more heavily on the mind and conscience of the country practitioner than the indigent consumptives. Knowing that the essential element in the arrest of the disease was an abundant supply of nourishing food, he was compelled to watch the downward course of the wasting sufferer towards the certain fatal termination, doing what he could to palliate suffering but powerless to stay its progress simply because the means were not forthcoming to furnish the necessary nourishment. Now through our 115 dispensaries with the working of which all country physicians are familiar, that load is lifted from their hearts. They know not only where to turn for aid in diagnosis in obscure cases but where the essential means of treatment in the shape of milk and eggs can be procured with absolute certainty and in sufficient quantity. Many of them have watched the course of tuberculosis sufferers well advanced on the downward road, in whom the progress of the disease has been arrested at the dispensaries and the patient has again become a useful member of society, as well as of others in whom the disease had made such ravages that the dispensary physicians had not deemed it wise to attempt to treat them under the unfavorable circumstances of home duties and cares and have heretofore advised their resort to the South Mountain Sanatorium at Mont Alto, where the advantages of a regulated life, enforced rest and pure mountain air in addition to abundant food had brought about a like happy result.

As is generally known, the munificence of a Pittsburgh philanthropist has made it possible for the state to establish another sanatorium on the summit of the Alleghenies and before another year rolls around the physicians of the western part of the state will be able to afford their indigent patients similar facilities for recovery, while latter are saved the fatigue of a long and often exhausting journey.

At the eastern end of the state too, provision is being made for the crowded population of that section on a carefully selected site near Hamburg, in Berks County, on the southern slope of the Blue Hills.

The researches of the past year have put us in possession of most important knowledge with regard to that mysterious affection which, when unfortunately not fatal leaves behind it a train of helpless cripples to be a burden to their families and the state, poliomyelitis or infantile paralysis. In our laboratories an organism has been discovered which, if not the cause of, is at least peculiar to that disease, and the laboratories of the whole scientific world are busy on this quest with every hope of success. Once this organism is determinately found, we shall be well on our way to the discovery of the means of prevention.

But enough has been said to indicate how, from the very beginning of its career, our department has felt that coöperation of the medical profession was essential to the accomplishment of the great ends for which it was created, and how it has aimed to use the powers and means with which the wisdom and munificence of the Legislature have provided it, in such a way as to aid the hard-worked country practitioner in the discharge of his laborious duties.

And now let us devote a few moments to the consideration of the real and lasting rewards which our profession holds out to those who enter upon its practice in the true spirit of the physician in the highest sense of the term. Let the young man who is proposing to make medicine his life work pause, and carefully consider whether the golden calf is going to be his idol. If so, he is doomed to disappointment. He would be justified of course in anticipating a return for his labors which will enable him to provide the necessaries of life for himself and the partner of his joys and cares and the little ones who will be growing up around him, and to sustain his position in the cultivated and educated class of society, of which he should aim to be one of the ornaments, and further to provide a margin out of which to save enough to provide against want in the days to come when the senses shall become so dulled by age that his conscience will no longer permit his continuance in the practice of his profession. But beyond that let him not aspire, if he would do his entire duty to his patients and enjoy to the full the delights which the doctor's life has in store for him. We are repeating a worn-out truism, as old as literature itself, when we say that riches in the shape of mere money are far from bringing happiness to a man, or that on the other hand happiness must be waited for until a man has accumulated great wealth. Happiness should be, and may confidently be looked for day by day in the day's work.

Can it be supposed that a wealthy banker gets as much pleasure after a hard day's work in his counting room that has netted him a profit of hundreds of thousands of dollars, as one of our profession who has entered a home where diphtheria antitoxin has neutralized the deadly toxin sufficiently to enable him to inform the father upon his return from his daily labors that his child is saved? Such happiness has come to many of us even early in our profession, without waiting long years, and we should cherish it and not allow ourselves to become dulled to its charm by its repetition. Such a sense of exultation is more to us than great riches could possibly be. Nor should we conceal the pleasure which we feel from those who hang breathless over the couch of their beloved child and await our decision. Let us show our sympathy and pleasure in that which is so dear to others. It is natural to us all and should not be masked. The saving of life gives us the most intense pleasure and wins for us the greatest of all blessings—the love of our fellow men. A real friend won by real deeds is thus bound to us by the closest of all ties.

Original research work such as is now going on in the laboratories of the medical world is affording us pleasure derived from what seems at times almost the resurrection of our patients.

To-day we have the immunizing power of antitetanus serum and many other immunizing substances and antitoxins. Our experiments on the products of the tubercle bacillus have reached such a point that we are ready to say we have a factor in the treatment of tuberculosis which means at least an immunization to a greater or less extent.

The state is now working on a cure for cancer which has some degree of promise. This, however, has been tried on so few animals, that it may not mean anything because we know that nature at times will overcome disease without human aid, even the apparently most malignant growth, yet when one is following our original research work it is only natural to hope for a result whenever the weathercock shifts to the side of promise.

The natural instincts of youth are nobly sentimental. He puts a high value upon his own life and also upon the lives of others, but when he enters his second year in the medical school he often seems to think it more manly to treat the subject of the life of man with more or less indifference and some men unfortunately carry that feeling too much through life. This robs them of the greatest pleasure to be derived from the practice of their profession, and often loses for them the high respect they otherwise might receive from their patients and the general public. Our aim should be to cherish the enthusiasm of our youth and to avoid, as firmly as possible, the spirit of the cynic.

While recognizing fully the blessings conferred on the world by those who are patiently cultivating the field of original research, it should not be forgotten that this branch of medical science requires a mind of a peculiar character and that not usually the mind best constituted for conveying information to others. Hence in the selection of teachers, who are to prepare young men for the actual practice of medicine in our medical schools, are we wise in our efforts to choose only those capable of great original research? Is it not possible that those who are endowed with fine scientific imagination will become too much absorbed in such work to make good teachers of practice? Are they not inclined to carry their instruction too far into laboratory work done at the expense of more practical clinical training which latter is the first essential to the every day practice of medicine?

Furthermore, if our students devote four full years after their complete college course to the science of medicine with but little practical training, is there no danger that they may get beyond the most receptive age at which their natural instincts can be most easily and most highly cultivated? More time therefore should be devoted to bedside work.

When the medical man gets out into the field of practice he soon forgets much of his technical laboratory teaching and if at all successful as a practitioner he is unable to keep up with the advancing tide of laboratory technic, and therefore must fall back on the laboratory student to make his laboratory studies for him. For this reason advantage has been taken of the wise thoughtfulness of Professor Charles B. Penrose, who introduced the clause in the great Act of Assembly of the year 1905, to permit the Governor and the Commissioner of Health to devote to laboratory work a reasonable portion of the moneys appropriated to the Department of Health. This work is now being prosecuted as has just been described for the benefit of the practitioner of medicine.

Our medical societies composed of graduates from the various colleges, with the advantage of the experience derived from years of practice of medicine and from watching the young graduate's stumbles in his early days for want of more adequate clinical teaching, should take up this question with the seriousness which it demands and which it is already receiving in many parts of our country, and appoint delegates to congresses created for the purpose of discussing and forming a curriculum for the teaching of the medical practitioner on more practical lines than those which obtain at the present day.

Such a curriculum should meet the demand of the times to prepare the recent graduate for his service to the people among whom he is to practice in all ordinary conditions so that the necessity of calling in the advice of an expert as for instance in the constantly recurring cases of faulty refraction, may become so rare that the traveling lay peddler of spectacles will no longer find a field of operation. The expert will of course still have his place, but the family doctor will not have to so constantly acknowledge his own ignorance. Furthermore, he will add materially to his income, will increase his prestige in the community, and will become conscious of a new sense of honor and self-reliance.

Then too under the act of May 14, 1909, we find that the state department requires a notification by the physician through the health authorities of all diseases of a contagious or infectious type, from bubonic cholera and smallpox through and including measles, mumps and whooping cough. For these diseases the State Department of Health furnishes a warning placard and these cards of notification to the health officer furnish the status for morbidity statistics which are made up for our own use by the Department at Harrisburg.

Then too, it might be well for me to call your attention for a moment to the relationship existing between the physician and the local health authorities in municipalities and between the physician and local representatives of the department in the rural districts and to say just a word with reference to our duties as to the report of all cases which come under our notice to save other members of the family from the disease and also other entire families from the disease. Let me also call your attention to the ordinance providing for the appointment and maintenance of a board of health for boroughs with its relation to the borough council and for the protection of the public health and just to name a few of the possibilities which it considers:—

The duties of the president of council and the borough council; the powers and duties of a board of health; the duties of its secretary; the duties of its health officers; the duties of physicians; the duties of undertakers; the duties of school authorities; the sale of milk; sale of food and food products, and providing penalties for the violation of any and all of these laws.

Before closing this paper, allow me for a moment to call your attention with emphasis to the fact that each and every contagious disease carries with it a legal aspect and for each disease there is a penal obligation which constitutes fine or imprisonment or both for noncompliance with the law as stipulated. To resort to the penalty for noncompliance with this law or laws, the department at Harrisburg always leaves the legal status of the case as the very last and final resort for noncompliance to its statutes. We should therefore, all be especially cautious and try if possible to avoid any legal procedure which might be instituted against any of us in reference to the matters in hand.

Now finally let us consider the great opportunity of the general practitioner to do humanitarian work of the noblest kind and see how greatly the state appreciates the work by giving in detail the opportunities afforded for physicians to obtain statistics for their own use in bulletins, annual reports, etc., for reference, helpful literature for the use of afflicted patients and families and finally show that the physician is influential in the great work of making mankind healthier and happier.

INFANT FEEDING.

BY ALFRED HAND, JR., M.D.,
Philadelphia.

(Read in the Section on Medicine of the Medical Society of the State of Pennsylvania, Scranton Session, September 26, 1912.)

The problems of the artificial feeding of infants have been met with increasing frequency in recent years owing largely to the inability of the present-day mothers to furnish their infants with the food intended by nature for them.

In the solution of these problems several important steps have been taken: First, analysis by the chemists of human and cows' milk; second, the modification of cows' milk by dilution, etc., to make it approach the composition of human milk: third, the researches by physiological chemistry of the metabolism of the infant; and, fourth, the attempt to ascertain exactly how much nourishment an infant must have in order to thrive. It will thus be seen that there is no more royal road to learn infant feeding than there is to master any other branch of learning. That advances have been made over the empirical methods of thirty years ago there is no doubt; that much more remains to be learned is certainly clear to all who have much to do with the rearing of infants on the bottle.

To my mind, a great advance was made by the introduction of what the Germans are pleased to call the American or the percentage method; this grew out of the chemical analysis of milk, which made it possible to modify cows' milk, as already stated, so that it would closely resemble human milk; unfortunately, all infants do not thrive on this modification, and the *ne plus ultra* of infant feeding was not attained; nor do I believe that it will ever be reached to the extent that we shall have one absolute rule by which all infants will be successfully fed, for we are dealing not with a group, but with individuals, and as Dr. Klotz said at the opening session of this convention, "The human individual presents a variable quantity." It became necessary, therefore, to use other modifications of cows' milk than the one resembling human milk and by means of the percentage method to make such changes in the proportions of fat, proteid or carbohydrate as seemed indicated by the symptoms of indigestion. To make these changes a certain amount of figuring is necessary, but it is not so complicated as might at first seem. A few years ago there seemed to be a tendency, in order to avoid overtaxing the infant's digestion to feed such low percentages of fat and proteid that enough material for proper growth was not furnished, but that tendency does not at present exist to the same degree. Of great help in avoiding this have been the researches in the metabolism of infants and I may mention especially those by Heubner and others in Germany. After a vast amount of work in estimating the ingredients of the ash of the infant body, the surface-area, the normal rate of growth and the general metabolism, the German idea as stated by Camerer is that in the first four months 110 Calories per Kilogram of body-weight are needed, in the second four months 100 Calories, and in the third four months 90 Calories, and that if these amounts are exceeded permanently a state of over-feeding exists and the metabolism is so increased that a day of reckoning will eventually come.

Dr. Farr will show you the calorie values of the different food stuffs, so from one of his papers I will extract only a few figures: Milk, 5 ounces (140 c.c.) equals 100 calories: 20 proteid, (4.9 gms.), 52 fat (5.6 gms.), 28 sugar (6.3 gms.). Four per cent. milk, 1 ounce equals 20 calories, 1 gram proteid equals 4.1 calories, 1 gram fat, 9.3 calories, and 1 gram sugar, 41.1 calories. Milk sugar, 2 even tablespoonfuls weigh 25 grams and contain 100 calories. Granulated sugar, 2 even tablespoonfuls weigh 24 grams and contain 100 calories.

For some years I have been using the percentage method to help me in arranging the mixtures for feeding the infants under my care, being guided, as far as I could interpret them by the demands and desires (or, better, the wants and wishes) of the infants. With the introduction of the calorimetric method I found that I usually overfed infants from the above standpoint. In order to see how soon their day of reckoning will come I have taken the case histories of forty-seven infants seen in private practice (hospital cases being unsuitable for this purpose because they are under observation for too short a time and can not be followed). The ages of these patients range at present from three to thirteen years.

The calculation of the calories which these patients received showed no regular amounts for the different ages, which was to be expected, for the percentages used were not the same for any given age.

Thus child A. received in the first three months of life 86 C. per K.; in the second three months of life 103 C. per K.; and in the third three months of life 137 C. per K. with satisfactory progress.

Child B. for the same periods received 112, 114 and 101 C. per K.

Child C. who had formerly been fed on 73 Calories from the second to the tenth week with no progress, was changed as soon as I took charge to 128 and then to 141 with steady gain and regular movements; but with colic, which ceased after a short time, although 136 C. were given; the gains in weight were steady, without much change in the mixture, so that the C. per K. sank to 108 at the fourth month, and 114 at the fifth month. They were then raised, as the gain was slow, to 138 C. followed by steady gain of one-half pound per week. At the seventh month 147 C. per K.were given, which were reduced by gaining to 136 and later to 126, the mixture at the end of the year being 123.

Without giving more figures at present, the 47 cases may be summarized as follows: Eight could be called difficult cases of infant feeding, although by the end of the first year satisfactory progress had been made. One child died in her third year of an acute general infection starting in the frontal and mastoid air cells. The others are all alive and have so far presented no special tendencies to disease. Thirty-eight have been under what might be called close observation. Of these, five have had acute cervical adenitis; one has had pneumonia; one growing girl has frequent short febrile attacks of uncertain origin, perhaps intestinal; and when these children reach the school age they develop measles, chickenpox and whooping cough to the same extent as other children.

In conclusion, I believe the study of the calorimetric needs of the infant is a long step in the right direction, but I do not believe that any hard and fast rule can be laid down at present from such studies. The food for an infant, whether calculated on the percentage or the calorimetric method or both, must be, like the great artist's paints, mixed with brains, and the only conclusion that I feel safe in drawing is that in the artificial feeding of infants each patient must be individualized and given food adapted especially to his needs.

CALORIC VALUE OF FOODS WITH SPECIAL REFERENCE TO THE FEEDING OF CHILDREN.

BY CLIFFORD B. FARR, M.D.,
Professor of Diseases of the Stomach and Intestines at the Philadelphia Polyclinic, Philadelphia.

(Read in the Section on Medicine of the Medical Society of the State of Pennsylvania, Scranton Session, September 26, 1912.)

At the present time great interest is being taken in dietetic questions, both within and more especially without the medical profession. Not only have various fads been taken up but more legitimate advances have also aroused a profitable concern. The latter are exemplified by the work of Chittenden and by the less recent teachings concerning relative food values. The world wide interest in the treatment of tuberculosis and the attention directed to the feeding of school children, by the radical laws enacted in England and on the Continent, have stimulated a study of caloric criteria with the view of obtaining the maximum amount of nutrition for the minimum cost. Hospitals and institutions are also in many cases seeking to improve their dietaries and at the same time to encourage a more careful and systematic study of the essential facts by the nurses and physicians concerned. In addition efforts are being put forth to educate the general public by instruction in the schools, by public lectures and by exhibits, as at the recent Baby Saving Show in Philadelphia.

The caloric method is being used more and more in practical medicine by the profession generally in regulating the diet of individuals as distinguished from the diet of the special classes of persons to which I have referred. The extensive clinical application of a method so long employed by a selected few is due in part perhaps to the numerous contrivances recently introduced to simplify calculations and to condense and render available the necessary information. The caloric method in dietetics generally, like the percentage method in milk modifications, is most useful as a means of orientation for the physician. It protects him from the not uncommon danger of unwittingly starving his patients. Infants with feeble digestions requiring weak modifications; typhoid patients, long on a liquid diet; and diabetics, deprived of the foodstuff (carbohydrate) which ordinarily supplies two thirds of the required calories, are examples of patients who should be treated with a constant regard for their caloric requirements.

My aim in the present paper is to describe and illustrate a plan which I have found useful in teaching the comparative value of foods. I employed it originally some two and a half years ago in lecturing to the nurses at the Presbyterian and other hospitals and later in my classes at the medical school. The slides which I shall show illustrate my scheme as elaborated for the Philadelphia Pediatric Society[1] and the Baby Saving Show.[2]

Before showing the slides I will briefly recapitulate the elementary principles underlying the use of the Calorie as a unit for comparing fuel or food values. In accordance with the principle of the conservation of energy, energy is never lost but may assume many equivalent guises,—heat, electrical force, mechanical work, etc. This law holds good for the human body as well as for the machine. Energy is most conveniently expressed as heat units or Calories. The Calorie is an arbitrary unit representing the amount of heat necessary to raise the temperature of one kilogram of water one degree Centigrade. By means of suitable calorimeters the caloric value of substances such as coal and wood on the one hand and sugar and fats on the other can be determined by direct combustion. Ordinarily, however, factors are used and the caloric values of complex substances are determined by calculation from their chemical composition. Foods are oxidized in the body to yield heat and energy in a manner analogous to the combustion of gasoline in the cylinder of the motor. The mechanical efficiency of the human "machine" has been found to be nearly equal to that of the most economical gasoline motor and is more than fifty per cent. greater than that of the steam engine. In the human organism a certain percentage of the foodstuffs (protein, fat and carbohydrate) escape absorption while a portion of the protein is split off and excreted as urea, and other nitrogenous substances, which still have an appreciable fuel value. The factors that we use in our calculations to represent the caloric values of protein, fat and carbohydrate, to wit 4 (4.1), 9 (9.3) and 4 (4.1) respectively, have been corrected for these errors and are known as physiological caloric values (Rubner). Atwater and others have calculated these physiological values for practically all American Food Materials. The caloric requirements of individuals vary directly with their radiating surface, muscular activity and rate of growth and less accurately with height and weight. As a matter of convenience weight is, however, usually used with corrections in accordance with age and activity. Thus an adult at active work requires, in round numbers, 40 Calories per kilogram, or 3000 per day if he weighs in the neighborhood of 70 Kilos. A nursing infant needs at least 100 Calories per Kilo, or 400 Calories at a weight of 4 Kilos. A daily minimum of at least one gram of protein per kilogram in the adult, and 1½ to 2 in the child, is essential for growth and repair but the exact proportions of fat and carbohydrate may vary widely provided the total number of Calories supplied is sufficient.

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[1] "The Comparative Caloric Value of Various Foods Used in Infancy and Early Childhood" (with seven illustrations), *Archives of Pediatrics*, February, 1912.

[2] Some of these illustrations will appear in the report of the Philadelphia Baby Saving Show.

It has only been practicable to reproduce one of the slides shown at the Scranton meeting in the printed article.[3] A brief description of some of the main factors of the exhibit is therefore substituted.

Wall charts were used to make plain the meaning and importance of food values. The two which follow exemplify their style. The purpose for which the charts were prepared will explain and excuse their elementary and dogmatic character.

A. PROTEIN most ESSENTIAL FOOD STUFF
No substitute can replace it for GROWTH and REPAIR of body.
LACK of PROTEIN leads to
ANEMIA, POOR CIRCULATION, FLABBY MUSCLES.
FAT is the most important SOURCE of ANIMAL HEAT
Peary and Amundsen used Foods rich in FATS
LACK of FAT leads to
THINNESS. NERVOUSNESS. CONSTIPATION, RICKETS
STARCHES and SUGARS (Carbohydrates)
CHEAP, EASILY DIGESTED, Supply HEAT AND MUSCULAR POWER
LACK OF SUGARS AND STARCHES leads to
LOSS of WEIGHT and STRENGTH
WATER
Nearly 90 PER CENT. of INFANT'S FOOD (HUMAN MILK)
CHILD of ONE YEAR needs
HALF as much WATER as ADULT
MINERAL SALTS
Found in FRUIT JUICES. GREEN VEGETABLES, UNBOILED MILK, etc.
LACK of proper SALTS causes
ANEMIA, SCURVY, RICKETS

B. FOOD is BURNED in the BODY as COAL under a BOILER
Yielding BODY HEAT and MUSCULAR POWER
just as
COAL yields STEAM HEAT and POWER
OIL makes a HOTTER FIRE than COAL or WOOD
FAT YIELDS GREATER HEAT AND ENERGY than other FOODSTUFFS
PROTEIN (Curd) and CARBOHYDRATE (sugar or starch) have
SAME VALUE as HEAT PRODUCERS
THE MEASURE of HEAT is the CALORIE
ONE PART by WEIGHT (1 gram) of PROTEIN yields 4 calories
ONE PART by WEIGHT (1 gram) of FAT yields 9 calories
ONE PART by WEIGHT (1 gram) of CARBOHYDRATE yields 4 calories.
A baby requires about 45 calories for each pound of weight
One Quart of MILK contains (roughly)

CURD	35 grams x4 or 140 calories
FAT	40 grams x9 or 360 calories
MILK SUGAR	45 grams x4 or 180 calories
	680 calories

To illustrate the chief foodstuffs in the amounts needed at different ages I made use of graduated cylinders filled with colored fluids, etc. Thus the requirements of a baby of ten weeks, weighing eleven pounds, were presented as follows: Protein 15 grams, denoted by 15 c.c. of red fluid in a 100 c.c. graduated cylinder; fat 25 grams similarly by 25 c.c. of a yellow fluid, and carbohydrate 50 grams by 50 c.c. of a blue fluid. 750 grams of water were displayed in a large jar and an appropriate amount of salts (typified by NaCl) in a small one. The caloric value of this diet was stated in round numbers as 500 Calories. The diet of a child of thirteen months weighing twenty-two pounds and of a nursing mother weighing 110 pounds were shown in a similar manner. A chart which accompanied the exhibit emphasized striking points of difference.

BABY needs in PROPORTION to his weight
FIVE times as much WATER as his mother
FOUR times as much FAT as his mother
TWICE as much CURD (PROTEIN) as his mother
EQUALLY as much SUGAR (STARCH) as his mother
(Mother uses starch and sugar, baby sugar only)

A few years ago Professor Irving Fisher of Yale suggested a method of stating caloric values which is extremely practical. Instead of taking, as is usually done, a definite weight of a food and calculating its caloric value per pound, ounce or 100 grams, he determined in each case the amount of the food that would produce a uniform caloric value, for convenience taking 100 Calories. This method makes a comparison of food values very easy. After a little experience a simple dietary can be estimated with sufficient accuracy by mere inspection. To make this method still more simple and objective for purposes of teaching I formed a small "museum," if I may so designate it, consisting of graduated nursing bottles containing carefully weighed or measured (metric system) staple food materials, both raw and cooked. The graduations (fluid ounces) on the nursing bottles served to reduce the quantities to familiar terms. Each bottle, as far as possible, contained 100 Calories. Occasionally in the case of bulky foods I was compelled at first by lack of suitable containers to represent 50 or 25 Calories. It is much better, however, to preserve the same unit throughout.[4]

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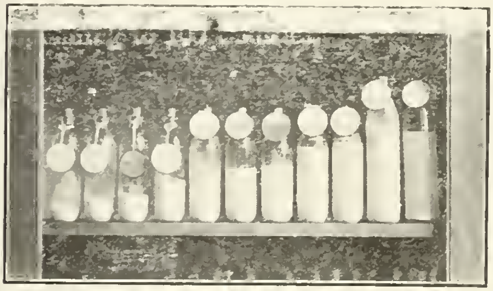
[3] List of slides: (1 and 2) Photographs of charts (printed below in body of this article): (3) diagramatic sketch of a calorimeter; (4 and 5) chief foodstuffs needed at various ages and accompanying chart; (6) chart illustrating Fisher's method: (7) labels used on bottles; (8) exhibit of comparative food values as shown at Baby Saving Show: (9) similar exhibit shown at Pediatric Society: (10) illustration reproduced with this article; (11) illustration contrasting extremes in food values: (12 and 13) dietary suitable for a child: (14) diabetic diet: (15) different forms in which milk may be given: (16) diet of an infant of ten months: (17) selected charts, U. S. Dept. of Agriculture; (18) caloric diet sheet as printed in body of article.

This basic idea was elaborated in various ways:—

1. A series of bottles and jars were prepared exhibiting articles of the same nutritive value (100 Calories) in the amounts shown. These were chosen on account of their richness in protein, in fat, in carbohydrates or in mineral salts.

2. Striking contrasts and interesting comparisons were grouped separately. The photograph which is reproduced in this article illustrates, for example, various forms and concentrations of milk (contained in 8 and 12 ounce bottles), each sample corresponding to 100 Calories.



From left to right we have: 40 per cent. cream, 20 per cent. cream, 16 per cent. cream, 7 per cent. top milk, 5 per cent. milk, 4 per cent.milk, human milk, skimmed milk, kumys, buttermilk and whey. On account of foaming the buttermilk appears to be more bulky than the whey, whereas the reverse is really the case.

3. Various foods were grouped to form meals and diets suitable for healthy infants, young children, nursing mothers, etc. Improper "modifications" for infants and special diets as for diabetes were also included. In some cases the proportion of protein, fat and carbohydrate were emphasized, as previously described, by means of colored fluids.

4. A useful exhibit showed some thirty different forms in which milk, or foods made in whole or in part from milk, might be offered. Each article had the same food value (150 Calories) as a glass of milk.

An entirely distinct exhibit presented a series of bottles containing colored fluid, in which the ounce graduations represented 100 Calories. It specified the number of Calories obtainable from common food materials at the cost of a pint of milk (4 cents).

LETTUCE (at 10 cents per head)
4 cents buys 25 Calories
HALIBUT (at 25 cents per pound)
4 cents buys 75 Calories.
CHICKEN (at 26 cents per pound)
4 cents buys 115 Calories
BEEF ROUND (at 22 cents per pound)
4 cents buys 120 Calories
CERTIFIED MILK (at 8 cents per pint)
4 cents buys 175 Calories
APPLES (at 1 cent each)
4 cents buys 175 Calories
LAMB CHOPS (at 25 cents per pound)
4 cents buys 235 Calories
MILK (at 4 cents per pint)
4 cents buys 350 Calories
BUTTER (at 30 cents per pound)
4 cents buys 480 Calories
RICE (at 12 cents per pound)
4 cents buys 540 Calories
POTATOES (at 60 cents a 30 lb. basket)
4 cents buys 660 Calories
DRIED PEAS (at 10 cents per pound)
4 cents buys 660 Calories
BREAD (at 5 cents a loaf)
4 cents buys 980 Calories
FLOUR (at 7 cents per pound)
4 cents buys 960 Calories
SUGAR (at 7 cents per pound)
4 cents buys 1000 Calories
OATMEAL (at 6 cents per pound)
4 cents buys 1240 Calories

Finally, a printed diet sheet was added to show how the method of Fisher (modified) could be adapted to the prescription of an ordinary liquid diet (hospital). The "portions" represented convenient amounts which could be regularly served. The italics represented the orders of the physician in a particular case. It will be seen that the amount of protein and the number of Calories can be readily varied

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[4] For tables giving quantities of food materials required, etc., see article previously cited.[1]

LIQUID DIET.

DIET PRESCRIPTION.
Name: *John Jones.* Date: *Sept. 26, 1912.*

ARTICLE.	Description of Portion.							
	Rough Measure.	Gm. or C. C.	Grams Protein.	Calories.	No. of Portions.	Total Protein.	Total Calories.	Directions for Feeding.
MILK-whole 4% fat.	A Glassful 7 f. oz.	210	7.4	150	*6*	*44.4*	*900*	*7 feedings at 2 1-2 hour intervals.*
Skimmed MILK 1.8% fat.	A Glassful 7 f. oz.	200	7.2	100				*One feeding between 10 p.m. and 7 a.m.*
CREAM 16% fat.	Two even Tablespoonfuls	28	0.9	50	*4*	*3.6*	*200*	*Add one egg to broth and one to each of two glasses of milk.*
MILK SUGAR	Two Tablespoonfuls	25	...	100	*4*	*..*	*400*	
Raw EGG	One	67 (gross)	5.8	75	*3*	*17.4*	*225*	
Albumin water 2 whites to 8 oz.	A Glassful 7 f. oz.	200	6.1	25				*Add Cream and sugar to remaining glasses of milk.*
Beef Broth	A Cup 8 f. oz.	250	2.5	10	*1*	*2.5*	*10*	
(extras)								
Totals						*67.9*	*1735*	

with even this simple list of articles. In a diabetic list special attention would be directed to the carbohydrate content but in the ordinary case it is not well to make the form too complicated or it will be set aside as impracticable.

DISCUSSION.

ON PAPERS OF DRS. HAND AND FARR.

Dr. Henry T. Price, Pittsburgh: As Dr. Hand mentioned, the question of infant feeding has not been settled in spite of all the work that has been done upon it. The greatest difficulty is that we try to get something definite that can be given to any child. We know the different things that are needed in the food,—hydrocarbon, proteid, carbohydrate and the salts. The caloric method of feeding was not gotten up with the idea of feeding by calories alone. The idea rather is to determine approximately the food content and feed as the child needs. The interpretation was to feed the child by calories. A few years ago I visited the different European clinics where the figures are given of 110 calories for one child of a certain age, 100 for a child of another age and 90 for another. One of the clinics used this method entirely. We can not compare the feeding of the sick child with that of a healthy child. Practically all children in hospitals have been treated with different kinds of food, each being treated individually. Breast feeding is the real food for babies, but rarely is not satisfactory. I hope Dr. McKee will tell his interesting experience in the feeding of twins. What we have to do is to feed the child according to its real need. The sooner we feed individually the sooner we shall have better results with our infant feeding.

Dr. Sarah Wyckoff, Wilkes-Barre: These speakers have given excellent advice about feeding sick children. We are delighted in our work when asked by mothers how to feed the children to keep them well. Or, if one child is sick we have an opportunity to advise the mother concerning the feeding of the other children. If a child is treated right from the beginning in the matter of food and in other respects it will usually grow into a healthy child. Too often little attention is paid by the visiting physician to the diet of the child even when the complaint has been gastrointestinal. The question of feeding the child is the most important in pediatrics.

Another important question is from what source we shall secure the protein, the fat and the carbohydrates. All sources do not agree equally. Most of the protein is best secured from milk, eggs, and cereals, meat being used sparingly. Some children can not digest cream well. Whole milk with olive oil and eggs, oatmeal and corn meal furnish the fat in better form than cream and butter. For the carbohydrates, avoid sweets and ready-prepared breakfast foods. Use home-cooked cereals, oatmeal, wheat, corn, rice and barley. Of these, oatmeal is the standard food, having a high protein and fat content, and being well digested when thoroughly cooked.

A popular magazine published an article on the food that different classes of people had had when they were children. It was found that approximately ninety per cent. of the people in prisons, reformatories and poor houses had not eaten oatmeal habitually for breakfast. It was further found that about the same proportion of successful people had eaten this cereal. It seems to me that the thing to teach the people is from what source they shall select food for the upbuilding of the child.

Dr. James H. McKee, Philadelphia: Dr. Hand started where all our thoughts concerning infant food should start, with mother's milk as the ideal food. We voice this thought as a truism; we say it over and over again, and still I doubt that the medical profession as a whole, has grasped the great truth that mother's milk is really specific for the human baby, just as the milk of any other species is specific for its progeny. Compare the milk of any animal, constituent for constituent, to the blood and lymph from which it is withdrawn, and this fact becomes strongly impressed. Even the alexins of the mother's blood pass over in her milk, aud so certain immunities of early infancy are probably explained.

I was greatly pleased to hear Dr. Hand say what he did concerning percentage feeding. In sounding the note of percentage feeding, we are sounding the note of individualism far more powerfully, than when we sound the note of the later calorimetric method. The calorimetric method, however, furnishes a very valuable check upon our other methods of feeding; upon individual formulas for individual babies. Nor need the attainment of percentage modifications be rendered difficult. Indeed, only by rendering them more simple will we get medical students and practitioners to accept them. Some years ago, in a very brief contribution, I called attention to an exceedingly simple method of obtaining percentage formulas in topmilk feeding. It permitted one to follow either the top-milk methods of Chapin or Holt. It involved but two rules:—

Rule 1. Knowing the desired ratio of fat to proteid, make of it an inverted fraction: This fraction represents the level of the jar from which we draw our top-milk. Thus the desired ratio is 3:1; the top milk to be used is taken from the upper half of the jar. The desired ratio is 2:1; the top milk is drawn from the upper half of the jar. If the ratio is 1:1; then we use whole milk.

Rule 2: Pay no further attention to the percentage of fat; but use the proteid percentage desired for further estimation. Make the desired percentage of proteid the numerator of a fraction, and the percentage present in the milk the denominator. Multiply the amount of food to be given by this fraction, and we will determine the amount of top milk needed. The remainder of the mixture is any diluent desired.

Example: Suppose we wish to give a baby of four months six feedings in twenty-four hours. Each bottle is to contain 5 ounces, and the desired formula is fat 3 per cent.; lactose 6 per cent., and proteid 1.50 per cent.

Rule 1: The ratio of fat to proteid is 2:1; the milk is therefore drawn from the upper half of the jar. Rule 2: The desired percentage of proteid is 1.50 per cent. Following Chapin, we will assume that the milk contains 4 per cent. of proteid. The amount of food to be given in the twenty-four hours is 30 ounces. Hence, 30x1.50/4.00=11.25 ounces. To 11.25 ounces from the upper half of the milk jar, we add 28.75 ounces of water or other diluent, and 4½ per cent. of milk-sugar.

I have had the pleasure of viewing Dr. Farr's exhibit several times, and it has proved most instructive to me. It represents the most graphic method of illustrating the caloric values of foods ordinarily given in early life that I have seen. Personally, the calorimetric method has come to mean more in the feeding of children than in the feeding of infants. It has proved again of more value in the feeding of sick children than in the feeding of the well.

Dr. Harry Lowenburg, Philadelphia: As the title of Dr. Hand's paper was "Infant Feeding," I take it that reference to a very much neglected phase of the problem would be in order. Dr. McKee, in his discussion, referred to it, mother's milk. Dr. Hand spoke in his paper of the present-day mother's inability to nurse her child. I regard this as an unfortunate expression emanating from such an authoritative source as Dr. Hand. It seems to me that we as a profession greatly neglect this most important part of the matter of feeding. There is nothing quite so good as the milk that "mother used to make," and we all say that breast feeding is the best food for infants and let it go at that. We make no serious effort to conserve the human milk supply. Looking at the multitudinous methods that have been promulgated since the time of Meigs or Pepper to that of Tinkelstein and Meyer in the matter of artificial feeding of infants, the conclusion is inevitable, to use a vulgar expression, that we do not know exactly "where we are at." Dr. Hand struck the keynote in the matter of artificial feeding when he said we must individualize.

To return to the question of maternal nursing, how many of us in private practice, especially (in hospital practice there may be some excuse for artificial feeding), from the day a woman comes under our care, preach to her the gospel of maternal nursing. We do not do it and we should do it. You have a baby brought to you with marasmus. You ask how the child is fed and you are told that the mother's milk did not agree with it or that the mother did not have enough milk. When asked how this was determined an evasive or ignorant reply, implicating the intelligence of the mother, the nurse or often, too often, the doctor, is received. The question is up to us. Instead of talking so much about caloric and percentage feeding we ought to emphasize the importance of breast feeding. Mothers' clubs should be addressed by doctors that they may be made intelligent on this point. My belief is that 99.9 women out of 100 healthy ones can nurse their children. There is no reason why they should not. If you appeal to the psychic element and make them feel their ability to nurse, you can accomplish a great deal. Only a short time ago I had occasion to see a child of a sister of a brother practitioner. She had gotten the idea that she did not have enough milk and he acquiesced without investigation. She had enough milk for three babies and could have gotten a large sum per quart for her extra supply in the New York market. I immediately put that baby on the breast again. It is my firm conviction that a physician has no more right to take a baby from the breast without cause and put it upon artificial feeding just because he knows how to do it than a surgeon has a right, without reason, to open an abdomen to remove an appendix. The mere possessing of skill is no warranty for the act.

Dr. McKee: Dr. Price referred to something I said to him concerning the breast feeding of some twins. These babies were seen by the speaker in the practice of Dr. M. B. Franklin of Philadelphia. The little girl weighed approximately two pounds more than her brother, and was doing beautifully upon the mother's milk. The boy, the less favored of the twins, could not digest the fat of the human supply. When we attempted to feed him low fat formulas, we found an idiosyncrasy to fat. Buttermilk, however, agreed with him well for quite a while. Again, while thinking of the rare instances in which we are absolutely forced to use artificial food, I recall a baby that I saw with Dr. John Cooke Hirst. The mother of this baby had atresia of the lacteal ducts. There was a bountiful supply of milk, but no exit for it.

Dr. Hand, closing: I would like to thank Dr. Farr for his paper and also those who have discussed the papers, especially Dr. Lowenburg for his remarks. As I wrote that opening sentence I felt that if I could have three places on the program I could not do full justice to the topic. To refer to what the Germans say, that for the giving of too many calories a day of reckoning is coming, I would like to emphasize the importance of that as a general remark in infant feeding. Whether that day of reckoning will show a good balance at the bank of health or a deficiency depends very often on the method of infant feeding. As an illustration, a patient was referred to me not long ago by a physician with the remark that the case was very puzzling. The infant was seven months old and had been fed from birth on a proprietary food. There were marked signs of rachitis but in addition to the prominence of the parietal eminences there were large fluctuating swellings under the scalp; the legs were so tender that the mother had scarcely been able to bathe the child for five weeks, and there were marked tibial swellings, but near the lower instead of the upper ends. The upper lateral incisors had erupted and the gums over the central ones were dark and bleeding and there was a hemorrhage in the right upper eyelid. We do not often see now-a-days such well-marked instances of scurvy with such a day of reckoning. When asked the prognosis it was easy to say that the child would be comfortable in three days and that the hemorrhages and swellings would rapidly disappear but that the general nutrition has been so profoundly affected that it is impossible to say whether he will ultimately get into a good state of health or not, although since then he has been progressing toward it at the rate of a pound a week. Therefore, I agree with the Germans that there will always be a day of reckoning, no matter what the line of feeding.

Dr. Farr, closing: It is not to be supposed that the caloric method covers the subject of dietetics in any sense whatever. There are other points of view equally important such as the preparation and digestibility of foods; their freedom from bacterial or other contamination; the proper relative proportions of the chief foodstuffs (protein, etc.) contained and so forth. The use of the caloric computation does not preclude a careful regard for these factors but rather favors it; time does not permit me to go into these questions.

To quiet an intoxicated man give 1/10 grain of apomorphin hypodermically, which will be followed by emesis and then sleep.

DIFFERENTIAL DIAGNOSIS AND TREATMENT OF PUERPERAL INFECTION.

BY RALEIGH R. HUGGINS, M.D.,
Pittsburgh.

(Read in the Section on Surgery of the Medical Society of the State of Pennsylvania, Scranton Session, September 25, 1912.)

In a general way it may be said that every rise of temperature observed in a puerperal woman should be regarded as due to infection until it has been clearly demonstrated that some other exciting cause is responsible. Not only must other diseases which give rise to symptoms similar to the early stages of puerperal infection be eliminated, but an earnest attempt should be made in every instance to differentiate the various forms of puerperal infection and make the diagnosis exact. This is not always possible, but it too often happens that the physician and even the obstetrician is satisfied with a provisional diagnosis.

If treatment is not too meddlesome, an exact diagnosis may not be an absolute necessity so far as the recovery of the patient is concerned, but many patients might be saved, who otherwise die, if careful investigation were instituted early in the history of every case of puerperal infection.

A patient with symptoms of infection following delivery presents a number of conditions for analysis. There may be an almost infinite series of gradations from a slight infection arising from lacerations, to an inflammatory process involving the uterus, tubes, parametrium, lymphatics, veins, or extending beyond these into the blood stream resulting in a general systemic infection. Early diagnosis of the local lesion is important, because improper treatment may serve only to augment the spread of the infection onward into the blood stream; thus converting what might remain a local process into a widespread infection. The infection usually starts in the uterus and the primary lesion is an endometritis. It is here that we have an ideal culture medium for the propagation of organisms easily introduced from without. Pathologically speaking it is divided into two varieties, the putrid and septic. The former is caused by the simple putrefactive organisms or the ordinary pus organisms of lesser virulence, and remains more or less limited to the endometrium. Bumm has shown that, in a uterus thus infected, sections through the wall show a thick layer of necrotic material lining the uterine cavity. In the superficial layer of this membrane large numbers of the offending organisms are found. Beneath this layer of necrotic material lies a thick layer of small cell infiltration, or the so-called zone of reaction. Few of the microörganisms can be found in the reaction zone and none can be made out in the healthy tissues beneath.

Nature's method of preventing invasion is thus beautifully illustrated. In the septic variety this small cell infiltration is either absent or very imperfectly developed, and the microörganisms can be seen making their way downward along the line of the lymphatics through the muscle wall out toward the peritoneal covering. Good knowledge of the pathology is important because much of the progress that has been made in the treatment of puerperal infection is based upon it. If the zone of reaction is removed by operative measures, the chances of the infection spreading are much greater than if the uterus is left undisturbed.

Parametritis (more properly speaking, lymphangitis) is due to the transmission of microörganisms through the lymphatics to the periuterine connective tissues. In mild cases there is only inflammatory edema, but in the serious types there is suppuration which may be confined to the connective tissue of the pelvis, or may spread upward through the lymphatics behind the peritoneum, giving rise to retroperitoneal phlegmons which may extend as high as the mediastinum. When there is extensive invasion into the tissues of the broad ligament or surrounding structures, careful bimanual examination will reveal tenderness and swelling. Pain of greater or less severity is usually present. Fixation of the uterus with bulging into the cul-de-sac or on either side of the uterus makes diagnosis easy.

When infection spreads beyond the lymphatics of the broad ligaments into the lumbar region, the symptoms are sometimes more obscure and the diagnosis difficult. The condition may resemble one of bloodstream infection. There is little pain early but careful observation will generally reveal tenderness along the course of the ovarian veins. In this variety there is often times persistent distention and, in the absence of peritonitis or other causative factors, it is a symptom of retroperitoneal suppuration which merits consideration. The absence of marked pelvic symptoms or pain, the recurrence of chills in some instances and the elevation of temperature, is often misleading; and I have seen two or three cases where the diagnosis of septicemia was made and valuable time lost. Later an incision revealed large collections of pus in the retroperitoneal space.

There is no cavity in the body which demands earlier drainage in the course of infection than does the retroperitoneal space.

Perinephritic abscess following puerperal infection has long been a matter of record but its recognition is still in some instances too long deferred. The symptoms in suppuration of the iliac glands are fever, chills, pain in or about the groin, often extending into the hip with flexion of the thigh. In the perinephritic variety, pain on deep pressure is an early and continuous symptom. Pain in the hip is reflected through the lumbar plexus. Pain may be referred to the knee, thus simulating hip-joint disease.

Salpingitis and peritonitis are usually diagnosed without difficulty, on account of the presence of severe pain. Careful study of the previous history may assist in the diagnosis of a salpingitis due to the gonococcus. The possibility of an infected gall bladder, or an acute appendicitis should not be forgotten.

Thrombophlebitis is a form of puerperal infection, which will receive greater attention in the future. It is found at autopsy in fifty per cent. of the patients dying from puerperal sepsis. In this discussion it is unnecessary to dwell upon the acute form, because the outcome is usually fatal. The chronic is distinguished from the acute by the slower growth of the thrombi and the course may continue for many weeks. A careful history in many instances will show a mild grade of infection present from the early days of the puerperium. The patient suddenly becomes worse. The temperature rises, preceded usually by a chill; the temperature falls again to the normal or nearly so and will then rise again. When the temperature is low the patient feels quite well and the general appearance would lead one to think the condition not serious. The pulse rate is in ratio with the temperature. A period of two or three days of this variety of temperature with the recurrence of chills gives strong presumptive evidence of thrombophlebitis, and these are danger signals which should always suggest the possibility of the presence of this variety of infection. There is often an aggravating absence of local symptoms. Careful bimanual examinations will sometimes reveal a mass, located at some point along the course of the veins leading from the uterus, and tenderness is often present if looked for.

There can be no doubt that chills are corroborative evidence of great value in the majority of instances, but they occur in so many other conditions complicating the puerperium, that too much reliance can not be placed upon them as diagnostic symptoms. Blood cultures are usually negative in the early stage, but may be positive late in the disease, because there is greater likelihood of a blood stream infection as time goes on.

In the presence of characteristic signs of salpingitis, lymphangitis, peritonitis or septicemia, an exploratory incision which fully exposes the veins so that they may be seen or palpated is as clearly indicated here as in any other obscure abdominal condition demanding inspection for the purpose of clearing up the diagnosis in order that surgical assistance may be rendered if deemed advisable.

In septicemia the temperature is usually continuous, and intermissions, while they do occur, as a rule do not present the same irregularity as in thrombophlebitis. The pulse is rapid and out of proportion to the elevation of temperature. The patient assumes a toxic appearance. Delirium is more common and on a whole this variety shows few signs of temporary improvement.

It has been my experience that blood cultures in septicemia are positive, if done accurately, and sufficient blood is removed for examination.

The presence or absence of an offensive discharge is of little value. As a rule every thing being equal, the more offensive, the better the prognosis, as it would indicate the prevalence of the ordinary putrefactive organisms of lesser virulence.

TREATMENT.

The most effective barrier against puerperal infection is a healthy patient. Every woman should be constantly under the care of her physician from the beginning of pregnancy to the time of delivery. That this has not been so among the better classes during the past is because the family physician has not been careful so to educate his patients. The danger of neglect has not been brought to their attention with sufficient emphasis, nor have they been taught what the dangers are, or how to prevent them. Strict antiseptic precautions during labor, few vaginal examinations, and care in the delivery of the placenta will greatly reduce both morbidity and mortality. When fever has developed, the disease is undoubtedly systemic and its severity and duration depend largely upon the virulence of the invading bacteria, and the resistance of the patient. We must remember that it is extremely easy for bacteria to gain direct access to the blood stream through the infected thrombi in the uterine sinuses, or the lymphatics which are large and active. In the early stages our aim should be to do nothing that will in any way augment the spread of the infection. Leading authorities differ about the necessity of exploring the uterus. Some advise against the cleaning out of the uterus if hemolyzing streptococci are present. An equal number remove, under all circumstances, any placental remnants carefully with the gloved hand.

If the patient is seen at the beginning of the infection when it is uncertain whether the uterus has been completely emptied, the uterus should be explored and if there is placental tissue present it should be removed carefully with the finger. This should conclude the local treatment. The curet should never be used and irrigations are of no value but may be productive of great harm. Many practitioners continue to use the curet and irrigation in spite of the teaching to the contrary. Later when the disease has made considerable progress my results have been better since I began to ignore the local treatment of the uterus to a large extent. If the uterus is well contracted, it is allowed to remain undisturbed. On the other hand if it is large and boggy, and examination reveals the presence of placental tissue which can be easily removed with the finger, it is done, but with the least possible trauma. There is no further local treatment. The old time douche is worthless. If the examination shows that the removal is likely to be difficult, the uterus is packed with iodoform gauze to stimulate contraction and in this way empty the uterus. Ergot and strychnin are given for the same purpose. Constant attention should be paid to the lymphatics of the pelvis and those higher in the retroperitoneal space. The majority of exudates disappear spontaneously, yet many suppurate, and when this occurs drainage should be instituted as early as the condition can be recognized.

Hysterectomy is seldom indicated, but occasionally where there is a putrid endometritis caused by degeneration of myomatous growths within the uterus, or when the infective process spreads in the form of multiple abscesses in the uterine walls its removal becomes necessary. Of course a single abscess may be drained and the uterus preserved.

All patients with thrombophlebitis, who are drifting on day after day from bad to worse, should be operated upon. My experience leads me to be enthusiastic over the hope that lies in the operative treatment of some of these cases if undertaken early and proper judgment used in the operative technic.

Suppurative peritonitis should be operated upon early and the cavity thoroughly drained. In the treatment of septicemia there is nothing new. Vaccines and serums continue to be in the experimental stage. Blood serum seems to be of value. I have used magnesium sulphate in the blood stream with some success but as yet no remedies are known that destroy the bacteria of puerperal infection. We must depend upon increasing the resistance by giving nutritious diet, rest and sleep. For every form of puerperal infection the patient should be placed in the sitting posture, in order to secure good drainage, and kept in the open air; even in mid-winter they do best in the open.

DISCUSSION.

Dr. John M. Fisher, Philadelphia: The doctor is to be complimented on the points he has brought out in his paper bearing upon the diagnosis and treatment of puerperal infection. The differential points in the diagnosis of sapremia and true septic infection should be constantly borne in mind; in considering the latter the recognition of its localization in the uterine cavity, or the existence of the more diffuse form as it affects associated structures, as distinguished from a generalized constitutional involvement, is of first importance to the practitioner from the standpoint of both treatment and prognosis.

The constitutional reaction termed sapremia, due to the absorption of toxins from saprophytic decomposition of retained material within the cavity of the uterus as a result of insufficient drainage, usually is easily diagnosed by the lateness of the symptoms (three or four days elapsing before the characteristic evidences of decomposition appear), by the odor of the discharge, by the discovery of retained material by digital exploration, and especially by the subsidence of constitutional symptoms upon reëstablishing drainage by the mere introduction of the gloved finger through the closed cervical canal. The discharge from the uterus in these cases not infrequently teems with streptococci and other forms of septic microörganisms but the phagocytic reaction in the tissues that usually precedes their appearance, due to the localized irritation of the saprophytic process, prevents constitutional microbic infection. In dealing with these cases, unless hemorrhage demands immediate interference, it has been my practice to wait for a few days for the spontaneous detachment and discharge of the necrotic material. This failing to occur within a reasonable period I empty the uterus by the gentlest possible means with the finger and forceps, or by the employment of a large-looped curet to detach otherwise adherent sloughing masses. The uterus is now loosely packed with iodoform gauze which is allowed to remain two or three days. The iodoform arrests decomposition, the gauze itself prevents hemorrhage and promotes drainage, while its presence as a foreign body reëstablishes the arrested functional activity of the uterine musculature by exciting retraction and contraction, thus promoting rapid involution of the organ and preventing all the retinue of possible evils in the form of chronic inflammatory processes and displacements that so often follow in the wake of subinvolution. Even in cases of undoubted blood infection associated with a saprophytic process in the uterine cavity, while harm may result in a few cases comparatively, I feel that the uterus should be cleared of any retained decomposing masses, and in not a small proportion of these cases will it be found that this organ has not only been the focus of the infection, but the main factor in maintaining the constitutional reaction as evidenced by the rapid disappearance of all the symptoms following the procedure. In all cases, however (and I desire not to be misunderstood in this matter), of puerperal infection where the uterus is empty no form of intrauterine treatment is justifiable.

DR. ALBERT J. WINEBRAKE, Scranton: I have seen a number of cases in this valley. We find we get better results by letting them alone entirely. Keep them away from the surgeons. I feel that in a case of septicemia or sapremia it is important to know what is being treated. If it is a case of septicemia the thing to do is to give autogenous vaccine. If there is a sapremia let the patient alone and like any person intoxicated she will get over it. Of course you get subinvolution in these cases; it is Nature's way of keeping that infection localized. If the uterus is entered with the finger or curet, there is liability of breaking down the barriers in some point of that uterus and a general infection is set up where before there was only local infection. If the patient has a general infection it is already in her lymphatics and blood channels. If she has septic emboli the thing to do is to open the abdomen and take out the uterus. Let the organ alone if you are not positive of the condition.

THROMBOSIS OF THE MESENTERIC ARTERY.

BY ERNEST LAPLACE, M.D.,
Philadelphia.

(Read in the Section on Surgery of the Medical Society of the State of Pennsylvania, Scranton Session, September 26, 1912.)

Of all the affections of the abdominal cavity thrombosis of the mesenteric artery is perhaps the most obscure and most perplexing as to diagnosis and treatment. This is to be expected when we remember that the etiology is likewise as obscure. The condition results in gangrene of the bowel and ultimately proves fatal.

Until 1902 forty-nine cases of arteriothrombosis have been recorded and fifteen cases of venous thrombosis of the mesentery. In a paper by Koebling in Brun's Beitrag[1] none have been diagnosed rightly and all the cases were fatal. Killiani in 1903 reports one fatal case; Woolsey in 1904, another fatal case. Parker Syms in 1906 reports a case of endocarditis, when patient to be discharged from the hospital was taken with severe abdominal pains. An autopsy revealed thrombosis of the mesentery. Greensburg in 1904 reported a case of thrombosis of the superior mesentery and gangrene in the small intestine also followed by death the next day.

The condition of arteriothrombosis has been attributed to endocarditis in the majority of instances. The symptoms presented are usually shock accompanied by pain in the abdominal cavity, giving a suspicion of intestinal obstruction. Inasmuch as purgation will invariably produce an effective result the cause of obstruction is soon eliminated, and the patient appearing to improve, the operation is delayed. Meanwhile the gangrenous process continues and when surgical interference is attempted the case is beyond recovery, as past experience has amply demonstrated.

In every instance where resection of the intestine was resorted to, the gangrenous process continued unabated until the patient's death. Elliott has reported one case having been a mistaken diagnosis where success followed an operation, but in this case gangrene had not yet actually taken place.

It is remarkable that in such progressive septic conditions the temperature and the pulse should remain about normal, the patient free from pain and still have bowel evacuations.

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[1] Vol. 33, 1912.

The whole subject is still far short of having received the proper attention from the standpoint of etiology, and on this account I deem it proper to relate the following case which has lately come to my notice, and whose clinical aspects may probably tend to elucidate some facts in the etiology of this condition.

The patient, a man of forty-five years, was taken while at work with a very severe pain in the epigastrium accompanied by vomiting. There was rigidity of the abdominal wall followed by pain disseminating through the whole abdomen. The attending physician diagnosed this case as an intestinal obstruction and sent the patient to the Medico-Chirurgical Hospital twenty-four hours afterwards.

On examination there was a marked sensitiveness of the epigastric region. The bowels moved freely a few moments after the admission of the patient: this was followed by no unusual symptoms and we had every reason to suppose that the patient was on the way to improvement. He informed us that he had had within the last year two attacks of the same kind. The patient, however, was put to bed and carefully watched. The pain in the epigastric region would return a while every day but the stomach would receive and retain liquid food and the bowels moved daily. The pulse and temperature continued normal. The case as diagnosed simulated subacute pancreatitis and the patient appeared to improve. On the seventh day after admission, without any other reason but that of draining the gall-bladder, the region seemed to be sensitive. A laparotomy was made; this revealed a large amount of straw-colored fluid which escaped from the hypochondriac region. The stomach and omentum seemed quite red and the sanguinolent fluid, which escaped from the lower abdominal cavity, suggested that a further exploration should be made. The incision was enlarged and in introducing the hand into the pelvic region a great mass of agglutinated matter was found; this was detached and proved to be coils of gangrenous intestine matted together. The mesentery was from one half inch to an inch and a half in thickness. There was no distention of the gut above or below the gangrenous area, showing that there was no intestinal obstruction at any time. It became evident that the case was one of thrombosis of the mesentery.

A resection of twenty-four inches of gangrenous gut was made and an artificial anus supplied, draining both ends of the gut with rubber tubes. The gall bladder was opened and drained of the heavy, tarry bile; a tube was inserted in the lesser peritoneal cavity. The patient was returned to bed in fairly good condition having stood the shock very well. But it became very evident that gangrene of the gut was progressing, the portion that had been drained at the outside becoming gangrenous. He died twelve hours after the operation. Unfortunately I was denied the privilege of an autopsy and was therefore unable to examine the heart for endocarditis but auscultation revealed no murmurs whatever.

The facts that were remarkable in the case were the repeated attacks of pain in the epigastric region with little or no abdominal pain, absence of obstruction, apparently unaltered condition of temperature and pulse and seeming improvement of the patient, while on the contrary the gangrenous condition of the gut was progressing during this whole period. Finally the symptoms seemed clearly to indicate the condition to be that of subacute pancreatitis.

The patient had two attacks of epigastric pain quite similar in character and this seemed clinically to be acute or subacute pancreatitis. The pancreas after the operation seemed large and doughy with pancreatic fluid in the lesser as well as in the greater peritoneal cavity. The constant exudation of this fluid which finally gravitated to the pelvis bathed the intestines which nestled there as well as the neighboring mesentery. This possibly produced gangrene of both mesentery and gut and would possibly be accountable for the condition usually attributed to primary thrombosis of the mesentery and vein. On the other hand the remarkable onset of this individual case gives strong suspicion that gangrene of the gut and thrombosis of the mesentery was due to an irritation from without rather than to an embolism which had its start from the condition of pericarditis of which this patient was apparently free.

I now realize that if the patient had been operated upon on his admission to the hospital, in spite of his apparent improvement, we would have drained the gall bladder as well as the peritoneal cavity and probably prevented an accumulation of pancreatic fluid in the pelvis which resulted in an eschar of the intestine.

Gangrene of the gut has been known to result from sepsis originating about the appendix and extending to the mesentery where it produced a thrombosis of the mesenteric artery. It is also possible that the pancreatic juice in a case of acute pancreatitis would irritate the mesentery, producing thrombosis and leading to gangrene of the intestine.

Of course the pancreatitis from which this patient suffered was not of the most violent type or it would have been hemorrhagic in character with immediate fatal result. The infectious type while of a milder character, accompanied by the exudation of all kinds of serum, dissolves the pancreatic juice to some extent, but, however, leaving it strong enough to produce in time disastrous results which characterize our case.

I have two objects in reporting the above case. The one is to add another case of thrombosis of the mesentery with accompanying gangrene of the gut, to the long list of fatalities in this condition due to the impossibility of an early diagnosis.

Secondly, to suggest that other causes should be studied as an etiological factor beside the one usually accepted, that is, mesenteric thrombosis or endocarditis.

Thrombosis of the mesenteric artery and vein or of one of their branches must remain a fatal condition, should surgical intervention be not resorted to until gangrene has set in. There is a necessity of immediate intervention when symptoms resembling pancreatitis appear. The bacillus coli infection of various degrees is more widespread, and causes more abdominal pathological conditions than have been thought heretofore.

Rudolph Rubeck[2] has shown experimentally that thrombophlebitis may be produced by living as well as dead cultures of bacillus coli and streptococci, but that a more rapid and violent action follows the action of the living cultures.

Finally, we find an analogy between this extensive gangrene of the gut, and the more limited one of the appendix due to an arteriothrombosis and thrombophlebitis of the blood vessels of the mesoappendix. Acute fulminating appendicitis with general gangrene of the appendix, the bacillus coli, is found to be the main cause of the obliteration of the condition.

It is impossible to diagnose clinically in our present state of knowledge. Great watchfulness and early exploration may reveal a pregangrenous stage of thrombosis of the mesentery, the only time when an operation can prove successful.

DISCUSSION.

Dr. L. Jay Hammond, Philadelphia: It is obvious that diagnosis is of greatest importance for, as Dr. Laplace has said, unless early recognized and promptly treated surgically, the cases must prove fatal. The subject is extremely difficult to discuss because no surgeon, or few surgeons, at least, even though of large experience in general surgery, has had an experience large enough to justify them in stating dogmatically any group of symptoms that could be relied upon even to approach accuracy in diagnosis. However, there have been reported 214 cases by Jackson, 47 of which were operated on, though but few were diagnosed before incision, with a mortality of 92 per cent. From these statistics a few points which seem to be of some diagnostic value and justify consideration, are observed, namely, the onset of pain which is sudden and acute, more or less diffuse over the entire abdomen, with a decided rigidity, with vomiting, usually blood stained and in the very early stage diarrhea with bloody stools. These seem to be the most constant symptoms, yet as you observe, though common to them all, are not pathognomonic of any one abdominal lesion but seem to be the most constant symptoms here met with and therefore the ones to which it would seem important for us to give the most attention. As to the causes, Dr. Laplace has said that cardiovascular diseases are usually regarded as the most conspicuous. I quite agree also with his statement that in all probability infection plays a major part, although in this report a great majority of the patients were subjects that had distinct evidence of blood-vessel changes, especially arteriosclerosis, so it must be given at least a place in the category of causes. Trauma has also been assigned as a very prominent cause. In one patient that came under my observation the condition occurred following an operation where there was very marked sepsis, so that at least this one can be attributed to a septic cause. As to the treatment, while as Dr. Laplace has told us it should be early, we still may not get the results that are to be hoped for in other early abdominal operations. It is obvious that a lesion, carrying with it obstruction to the blood supply and therefore loss of nutrition. would be extremely difficult with any degree of certainty to deal with in its entirety. For example, there is no one who would be able to decide the limits of an area of necrosis before it was actually defined; hence, if the patient can come under observation when the line of demarcation has taken place it would then be, to my mind, a more satisfactory period than to undertake to operate before such a certainty had been established. It is also recommended that, where a patient with a gangrenous area not positively defined, is to be dealt with, instead of at once doing an anastomosis the part to be brought out through the incision should include in the loop healthy gut, and there be anchored until the certainty of a demarcation is established, when a secondary anastomosis should be done.

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[2] *Beiträge zur klin. Chirur.*

Dr. Edward Martin, Philadelphia: I would like to contribute one case with an interesting etiology; that of a young woman, going through the hopeless struggle against hips and waist, who desired to wear to some function a frock she had not worn for eight years. Both coats and frocks have a curious way of shrinking when put away for some time. This frock was no exception to the rule but by the aid of a powerful helper she put it on and went to her party. She came home and was seized with the shocking pain which characterizes abdominal crises: this persisted through the night. On the following morning her lips were pale, there was a running pulse, tympany and that sign of free air in the belly to which Dr. Stengel first called attention, and the clear conveyance of heart sounds down well below the umbilicus. I opened her, I must confess, not knowing what the diagnosis would be. Section and search showed a thrombosis of the superior mesenteric vein, the artery pulsating freely. As the gut, though greatly congested and slightly ecchymosed was not dead, the wound was immediately closed. She had a somewhat stormy convalescence, but recovered entirely. This, apparently, is a case of thrombosis due to pressure.

Dr. George Erety Shoemaker, Philadelphia: I think I misunderstood Dr. Laplace to say of these cases that they were all fatal. There are a number of cases which have been operated on and recovered. I reported one some time since. I do not think any of us have had more than one. In my case I resected five feet of the thrombosed area. The mesentery was not thrombosed clear down to its root, but the thrombosis was more marked as we approached its intestinal border. It was as thick as the edge of the hand. The gut and mesentery were purplish and the mesentery hard and firm. It was not easy to see any line of demarcation but there was an apparent shading off, and in resecting one had to make a guess where to stop. If the whole mesenteric artery is obliterated obviously the resection would be more extensive than when a small branch was involved. In my case the thrombosis involved an area of the small intestine which it was possible to resect leaving sound gut. The patient had been under our observation for nearly a week with obscure painful abdominal crises but she had no tympany and no rise in temperature. There was nothing to force us to operation and we were all wondering what the diagnosis was. I had Dr. Rodman see her and he was not sure that operation was indicated, but as the symptoms continued I made an exploratory section. Doing the immediate anastomosis in the flat condition of the gut seemed a reasonable thing and it succeeded, except for a small leak. A few months later, on making the ordinary resection and anastomosis for this fistula, a perfect result was obtained. I suspected syphilis as the cause, but I was not able to prove it. It was just before the Wassermann test came out, but the patient lived and I heard of her at least two years afterward. One of the symptoms that might help us is the occurrence of bloody stools, but in my patient there was no movement of the bowel and we had no blood to guide us.

Dr. William L. Estes, South Bethlehem: I would like to report a case of thrombosis of the omentum from pressure. It was a case of large umbilical hernia in which had occurred an escape of not only the transverse colon but nearly half of the small intestine. The mesentery had been drawn out, had been slightly twisted and had been grasped by the constricting periphery of the umbilical ring. That too was not an arterial thrombosis, it was a venous one, so that it was not a complete cutting off of the blood but obstruction of the return blood current. There was evident thrombosis of the veins of the mesentery. The gut was restored to the abdomen and it recovered its color after a time. I left the case about a week ago. The patient was doing extremely well then. (This patient made a complete recovery.)

These cases of traumatic obstruction of the blood vessels, notably the venous, may recover, but what Dr. Laplace says of a total thrombosis is correct, unless resection be done early they are nearly always fatal. Dr. Gerster after studying a large number of appendicitis cases suggested the etiology of this. He studied the results of a number of cases of misunderstood deaths or deaths which, as he expressed it, "should not have occurred." Postmortem showed that there had been extension all through the venules and arteries from the mesoappendix to the vessels of the mesentery and that these had been closed up by this septic material and cut off the blood supply. Sometimes one finds in these cases little abscesses in the mesentery itself.

It certainly is an excellent suggestion for the general etiology of these complete obstructions, namely, that it is probably septic from some source somewhere in the circulation.

Dr. Laplace, closing: The discussion has brought out exactly the purpose I had in view in my report. Of the cases that have been reported as successful in each instance the case has been one that has come under the immediate attention of the one reporting it, and, alert as to the possible danger, he has at the propitious moment opened the abdomen. In Dr. Martin's case and in Dr. Estes' case it is probable that element of relief of pressure had a great deal to do with the good result. The element of bacillus coli infection is greatly concerned in these cases as in appendix infections. This bacillus coli infection may spread at once to pancreas, gall bladder and mesentery, giving most obscure symptoms. An early exploratory incision might cure a great proportion of these cases.

Many a distressing frontal headache may be relieved by reducing the hypertrophy of a middle turbinate, preferably by streaking with trichloracetic acid.—*Am. Jour. of Surg.*

ACUTE MEMBRANOUS VAGINITIS IN PREGNANCY, DUE TO ENTEROCOCCUS.

BY GEORGE ERETY SHOEMAKER, M.D.,
Gynecologist to the Presbyterian Hospital, Philadelphia.

(Read in the Section on Surgery of the Medical Society of the State of Pennsylvania, Scranton Session, September 25, 1912.)

This complication in late pregnancy, while unique in the writer's experience and that of several of his friends, is reported with the hope that other cases may be grouped with it.

Case 1. The wife of a physician, aged thirty-six, pregnant about eight months and for the second time, applied at the office because of a distressing affection of the vulva and vagina which had resisted treatment for about ten days. She was otherwise in good health, well nourished, and there was no fever. She was unable to sleep, to walk or to sit down with comfort because of soreness, swelling and intense itching associated with a copious discharge, consisting partly of whitish fluid and partly of masses of yellow cheesy semisolid material. There was no history of infection.

Examination showed the vulva swollen and the overlying skin reddened, the mucous membrane reddish and moist but unbroken. A copious yellow white discharge bathed the parts and within the vagina was the yellow semisolid material above described, occurring not in flakes like a membrane but in masses the size of a spoon bowl. It was not adherent. The bright red appearance extended throughout the vagina and about the cervix, where quantities of the thick material were removed mechanically, but without leaving abraded or bleeding surfaces. No patches of ulceration or invasion of the deeper layers of the mucous membrane were detected.

After the surfaces were gently wiped clean a strong solution of argyrol (twenty per cent.) was directly applied and a tiny tampon wet with the same application left in. Treatment by daily irrigation with 1 to 500 solution of permanganate of potassium soon controlled the growth of organisms. The discharge and irritation rapidly improved, entirely disappearing within three weeks, the parts appearing normal. A week after all symptoms had disappeared labor appeared and a healthy child was born under the care of her own physician. A minor perineal tear was immediately repaired by him. Eight days later phlebitis of the left leg and thigh with rise of temperature and tympany followed but recovery was finally complete.

Clinically the appearances present before labor were unique. The absence of general disturbance and the laboratory study excluded the diphtheroid organisms. Thrush was not present. No trace of its fungus, the oïdium albicans, which is not very uncommon in the vagina, was seen in this case. In fact the semisolid masses were entirely made up of diplococci.

One other case, and the only other, was seen a few months later, also in a private patient.

Case 2. Patient was pregnant eight months with twins; she had had one previous labor and the family history was negative. She was stout, rather florid, bowels and urine were negative. She was referred by her physician because of an extremely painful condition of the vulva and vagina which had increased for three weeks in spite of treatment. The patient was in great distress from lack of sleep caused by intolerable itching and burning. She was unable to sit or lie down properly and reclined night and day in a Morris chair. On examination the vulva appeared dusky red and swollen, the redness extending for several inches on the skin. The area of itching and burning corresponded with the redness. There was an abundant thin milky discharge from the vagina, and an abundance of thick material, like a granular paste, in masses an inch across. Differing from the condition found in the other patient, the mucous membrane was more inflamed. There was a cockscomblike swelling in the vestibule caused by inflamed papillæ, the surfaces feeling quite hard from engorgement. The whole vagina was dusky red and covered with yellow masses. On an old area of granulating laceration of the cervix the pseudomembrane was not as easily wiped away as it was elsewhere, and here a slightly bleeding surface was left. The slightest traumatism would break the surface of the mucous membrane anywhere in the vagina. Patient was otherwise in good health and there was no fever.

Treatment: Permanganate of potassium 1 to 500, used as a douche, and daily applications of argyrol solution. When the oïdium fungus was reported as present in addition to other organisms injections of borax solution were tried but the trouble grew worse and permanganate was resumed. Within ten days all discharge disappeared and the mucous membrane became practically normal. Itching, pain and soreness were gone, though cultures from the vagina showed staphylococci and streptococci. Labor set in at this time, by the spontaneous rupture of membranes, twins being born without complication. No sign of infection in mother or children developed and all were discharged from the maternity well.

This second case differed from the first in having, in addition to the yellow masses of enterococcus, spores and mycelia of the fungus of thrush, the oïdium albicans. It was this which caused deeper inflammatory changes in the mucous membrane and gave rise to the bleeding when the surface was wiped.

The enterococcus may, like the colon bacillus, streptococci and staphylococci, be found dormant in the vagina; and under conditions which are not favorable to its rapid reproduction, no irritation may then be caused. In these two cases its growth and the consequent active irritation were evidently due to there being in these women temporary favorable conditions. Fortunately for the comfort of pregnant women such a combination is a rare one.

The fungus oïdium ablicans, occurring as a coincidence in small numbers in the second case, is reported by investigators as present in the vagina of many pregnant women. It may be quiescent and cause no trouble. It is not to be confounded with the very abundant growth of the predominating enterococcus which formed the yellow masses here described.

The painstaking laboratory work in the first case was undertaken by Dr. Albert F. Moxey and was carried out in the laboratory of the Germantown Hospital. His report is as follows:—

Smear of the cheesy material from the upper vaginal tract, stained with methylene blue and Gram's stain. Examination of the methylene blue specimen showed numerous encapsulated organisms mostly diplococci, but also occurring singly and in chains of three. The appearance of these organisms was striking, and immediately impressed one as being of an unusual type. They were Gram positive, the capsule giving the appearance of a halo surrounding each organism. The entire cheesy mass consisted of these organisms, no epithelial cells, leukocytes or other cellular elements or fungus being present. Cultures taken from the vaginal tract were tested on agar and bouillon. On agar they grew in the staphylococcic form. Bouillon cultures showed the predominating presence of the staphylococcic form with a lesser number of diplococci and chains of three.

The organism was identified as the enterococcus by (*a*) its peculiar morphology, (*b*) Gram positive staining, (c) cultural peculiarities, growing on agar in the staphylococcic form and on bouillon in the typical multiform variety.

Pathological report on Case 2 from the laboratory of the Presbyterian Hospital:—

Smear from vagina on admission show presence of fungus the morphology of which resembles the oïdium albicans. A mixed culture of organisms is present, the predominant being a coccus which stains by Gram, is extra cellular in position and usually assumes the diplococcus form. Few bacilli are present.

Smears obtained one week later, from cervix and vagina were spores of fungi (oïdium albicans) and micrococci arranged, some irregularly and some in pairs, corresponding morphologically to the enterococcus. Culture shows chiefly staphylococcus.

Specimens from both patients were examined in both of the laboratories mentioned. It may be stated that the gonococcus was not present in either case.

DISCUSSION.

DR. JOHN M. FISHER, Philadelphia: About a year ago I was consulted by a patient who was eight and a half months' pregnant,suffering from excessive itching and pain of the external genitals. On examination I found the vulva extremely reddened and a whitish discharge was issuing from the vagina and yellowish masses similar to those described by Dr. Shoemaker were deposited in different parts of the vagina. No bacteriological examination was made. From the description of the disease given by Dr. Shoemaker the condition in this patient corresponded very closely to the first case that he described. In the treatment I first used twenty-five per cent. ichthyol and seventy-five per cent. lanolin which appeared to aggravate the trouble. Subsequently I employed seventy-five per cent. argyrol and this gave prompt relief. At the time of delivery I used copious douches of permanganate of potash. There were no febrile symptoms or evidences of infection subsequently, and mother and child did well.

SUCCESSFUL REMOVAL OF AN ULCERATED CARCINOMA OF THE BREAST BY THE "HALSTEAD METHOD."

BY JOSEPH D. FARRAR, B.A., M.D.,
Philadelphia.

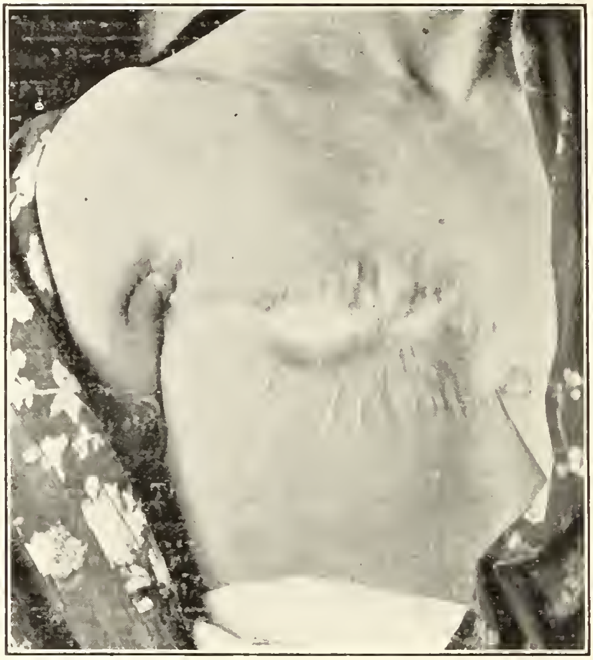
(Read in the Section on Surgery of the Medical Society of the State of Pennsylvania, Scranton Session, September 26, 1912.)

E. K., female, married, aged forty-seven, was referred by Dr. F. Kline Baker, Philadelphia, because of an ulcerated growth in the right breast. Past history was negative, except usual diseases of childhood.

Present history (patient's own record): As near as I can recall I first felt the cancer about four years before the operation; it began by sharp pains in the breast and, on examining it, I found a small red spot which itched; I rubbed it; the skin broke open; I applied Malina salve and in due time it healed. Following, a small lump appeared which grew slowly, but never gave me any pain, unless I would press against it. In about two years it began to develop more rapidly and grew to the side of the breast, and nine months before operation it grew in toward nipple and became very much discolored and at times pained considerably, and for three months it has discharged and is very offensive.

Examination revealed an ulcerated mass, discharging offensive pus, with axillary infraclavicular involvements. The prognosis at the time of operation was not considered favorable, but it was thought advisable at least to attempt a cure by complete dissection, since the late Dr. Richardson of Boston remarked before the Clinical Congress of Surgeons at Philadelphia that cancer of the breast can be cured if the operation is carried out properly in every detail, and Dr. Rodman of Philadelphia exhibited before this same Congress a number of cases of amputation of the breast, successful operations, following complete removals, and he believes he can cure sixty-seven per cent. of cases.

Operation: Delancey Hospital, August 30, 1911. The skin incision was carried at once through the fat. The triangular skin flap was turned down; the lower margin was reflected back to the lower border of the latissimus dorsi muscle, to the axilla and chest wall; several large glands were removed from the axilla; infraclavicular and supraclavicular regions were cleaned out. The upper flap was then dissected back until the cephalic vein was exposed. The lower border along with the pectoralis major and minor muscles were removed from their origin to their insertion. The mass was then grasped and removed from its attachment to the chest wall, and all bleeding points were ligated with cat-gut sutures. An opening was made in the posterior inferior portion of axilla for insertion of drainage; wound was closed with silk worm gut sutures, sterile dressings and breast-binder. The wound healed by primary union except at the lower angle of the incision, where granulations were established, a small sinus appeared which discharged freely for several months, finally a small spicula of bone sloughed out, when the wound healed permanently. Arm movements are limited, but patient can perform any of her household duties, etc. She has no paralysis or swelling. Scar looks about normal with so extensive dissection. Patient gained twenty-five pounds in weight. General appearance is good.



In carcinoma simplex, multiple nodules are often formed in the skin of the breast and the vicinity, a sign of bad omen. In this form, also, ulceration is frequent. A dense, board-like tumor steadily advances from the tumor in the breast in all directions. New nodules appear and finally coalesce until half or more of the thoracic wall is a solid mass of cancerous infiltration. The regular history of cancer of the breast is that of steady progress. The tumor tissue invades, infiltrates, replaces and destroys the surrounding tissues without regard to their character; at the same time lymphatic infection goes on to the axilla and to the pectoral muscles, the intercostular spaces, the sternum, and the pleura, etc. Retrogressive changes in the primary tumor lead to the absorption of toxic products, to ulceration, chronic sepsis and hemorrhage. In many cases there is produced, quite early in the disease, before any secondary tumors can be found, a notable change in the general health; the patients become anemic and have a peculiar waxy pallor; they feel weak, suffer impaired digestion, emaciation is often absent until very late.

A tumor which has remained small for years, then begins to grow rapidly, has almost certainly undergone malignant degeneration. A tumor of the breast of any sort, at any age, is a source of discomfort and anxiety to its possessor as well as a possible menace to life and should be removed by operation, unless distinct physical contraindications exist. If doubt still remains, there should be removal of a small portion, examination of a frozen section, then and there, and an operation in accord with the findings of the pathologist. By early and thorough operation the prognosis of cancer of the breast has been greatly improved in recent years.

The essayist feels indebted to Drs. Baker, Shrom and Righter in assisting at the operation.

CARCINOMA OF THE LARYNX, OPERATION BY THYROTOMY, WITH SUBSEQUENT HEMI-LARYNGECTOMY.

BY G. W. MACKENZIE, M.D.,
Philadelphia.

(Read in the Section on Eye, Ear, Nose and Throat Diseases of the Medical Society of the State of Pennsylvania, Scranton Session, September 26, 1912.)

It is with the intention of sharing an interesting and profitable experience gained through the treatment of this case that prompts me to report it and show the patient at this meeting and incidentally receive suggestions from those of you with wider experience that may better prepare me to cope with similar cases in the future.

Patient, J.O.H., aged forty-nine years, was referred by Dr. Sears of Huntingdon, October 5, 1911. Family history was negative. Personal history prior to present illness was negative. Specific infection was denied. Patient's habits are good and he has always enjoyed excellent health.

History of present illness: Six months ago the patient noticed for the first time a slight hoarseness, unaccompanied by pain or cough. This hoarseness increased gradually but persistently without other symptoms until three or four weeks ago when he began to feel slight twinges of darting-like pains in the left side of his neck (he points to the region of the thyroid cartilage). He claims to have little or no difficulty in breathing; furthermore he feels physically strong and has retained his normal weight.

Status præsens: General appearance is good, a rather robust-looking, middle-aged man. Examination of the nose shows both nasal chambers free of discharge, mucous membrane not especially thickened and breathing space on both sides free in spite of a slight deflection of the septum to the left. Fauces and pharynx are normal.

Examination of the larynx shows a sharply defined nodular, pale-colored tumor the size of a large soup bean, though somewhat flatter, involving the left true cord and extending from a point a few millimeters behind the anterior insertion of the cord to the processus vocalis of the arytenoid cartilage. The arytenoid was fixed, and as far as could be determined the fixation was due to the mechanical interference of the growth which extended beyond the free edge of the cord more than to inflammatory changes in or about the crico-arytenoid joint, for there was no evidence of localized redness or swelling in that region. Aside from these findings, there were no other evidences of pathologic changes in the larynx.

From the history and clinical findings the diagnosis of carcinoma of the larynx was made, corroborating the opinion previously expressed by Dr. Sears. A preliminary examination of an excised piece of tumor was not made. The operation of thyrotomy was advised and performed October 7, 1911, under ether narcosis.

The first step was the performance of a low tracheotomy.

Second step: Introduction through the tracheotomy opening of a large rubber catheter surrounded at one end with an inflatable rubber bag to serve as a cork to prevent the inspiration of blood into the trachea. Through this apparatus heated ether vapor was administered.

Third step: Since the isthmus of the thyroid gland was broad and interfered somewhat with our work, it was ligated and divided in the middle.

Fourth step: The cricothyroid membrane was incised in the middle line, through which one blade of a pair of large bone-cutting forceps was inserted into the larynx between the two cords and the incision of the thyroid cartilage along the middle line was attempted with one cutting act, but it was found necessary to make use of two or three.

Fifth step: After separating the opening with retractors a free application of twenty per cent. cocain was made to the entire internal surface of the larynx. After a brief pause the tumor was grasped with the rat-tooth forceps and a liberal dissection of the whole cord was made with scissors, including the processus vocalis; otherwise, the arytenoid was not disturbed. All tissue was removed down to the thyroid cartilage and the base burned with the actual cautery. Finally, after all bleeding had apparently ceased the parts were liberally dusted with anesthesin.

Sixth (final) step: The thyrotomy wound was sutured with silkworm gut and the tracheotomy wound left open but without a tube.

The specimen was sent to Dr. Sappington of Philadelphia whose report is as follows: "The specimen from Mr. H. is an epithelioma. The epithelial invasions are quite typical and one portion has taken a papillomatous form. Epithelial islets are found throughout the specimen and even show involvement of the lymphadenoid tissue. On the surface, the transition from normal to abnormal epithelia is clearly seen."

From this operation the patient made a rapid and uninterrupted recovery. He drank milk on the following day without any embarrassment and was discharged in nine days. The highest temperature recorded was 99°. He went home and to his work with slightly improved voice. I did not see him again until February 11, 1912, when a reëxamination showed a recurrence of the tumor at the same site as before. The tumor presented the same general appearance but somewhat larger than the original one.

After stating the circumstances to the patient he chose to be operated on more radically. He was sent to the hospital and prepared. Second operation February 13, 1912, was as follows:—

The first and second steps were the same as in the first operation.

Third step was the thorough preparation of the soft tissues from the external surface of the left half of the thyroid and cricoid cartilages.

Fourth step: Incision of the cricothyroid membrane and the division of the thyroid cartilage in the middle line as in the first operation.

Fifth step was an incision lateralward through the thyrohyoid membrane to the posterior edge of the thyroid cartilage. The upper extremity of the superior cornu was left intact. A similar lateral incision was made below along the cricothyroid membrane.

Sixth step: Separation of the thyroid cartilage posteriorly with the least amount of disturbance to the soft tissues, leaving at the same time the mucous membrane of the esophagus intact.

This practically completed the operation. After close inspection of the removed half of thyroid cartilage with the tumor (though we were at least three quarters of an inch beyond the nearest border of the tumor) it was decided to remove the left half of the cricoid cartilage and one half inch of the right half of the thyroid along the median line, for fear of recurrence in the right half because of contact with the tumor. Accordingly it was done. A free application of anesthesin was made; a tracheotomy tube inserted into the tracheotomy wound and a rubber tube into the esophagus for feeding. A firm packing of iodoform gauze in a large tent of plain gauze was applied to the wound.

The patient was put to bed with the foot elevated about eight inches and enteroclysis begun with normal salt solution, one pint to one hour, the most of which was retained. Thereafter it was continued one hour on and three hours off for two weeks, having been discontinued gradually. Peptonized milk was tried after the same method on two or three occasions but with failure, it having proved too irritating to the bowel.

On the third day a teaspoonful of water was given the patient through the esophageal tube. The quantity was gradually increased up to ounce doses on the sixth day, after which it was given more liberally. Other liquids, including milk and beef tea, were tried with success. On the tenth day the patient had a craving for orangeade which was given through the tube; he recognized it and claimed that it satisfied his longing.

Liquid food was given by mouth on the

eighteenth day; semisolids on the twenty-first day; solids on the twenty-sixth day. Since then the patient has continued to eat regularly and in normal amounts.

Though he lost forty-four pounds after the second operation he has regained it all and weighs at present 162 pounds, his normal weight.

Concerning the redressings, the first complete change of dressings was made on the sixth day after which the dressings were changed daily until the thirteenth day when the tracheotomy tube was expelled in the night and could not be replaced by the nurse or the residents. During the balance of the night and following morning the patient's condition grew worse; the temperature went to 104.2°, pulse 130, respirations 40, the patient became cyanotic and was delirious. When I arrived at the hospital the patient had the appearance of a drowning man. All dressings were removed and he was turned over the side of the bed and large quantities of retained secretion was cleared away from the wound and trachea. Oxygen was given. In twenty-four hours the patient had practically regained all that was lost. After this but very light dressings were used and the wound was cleansed of secretion every few hours until the patient was discharged from the hospital.

The temperature, excepting on the thirteenth and fourteenth days when we had the complication noted above, ranged from normal to 101° for five weeks following the operation. This slight fever, I believe, was due to the toxemia from the absorption of the wound secretion which was fairly large in amount.

The pulse and respirations retained a normal relationship to the temperature.

Position of the patient in bed was changed, frequently after the first thirty-six hours, as a precautionary measure against hypostatic pneumonia. He was allowed to sit up in bed on the seventh day and allowed to get out of bed on the eighteenth day, after which he spent the major part of his convalescence in a chair or walking about the room.

He was discharged from the hospital May 2, 1912, with a small fistula (which will admit the little finger) just below the level of the right vocal cord. One persistent, pea-sized, granulation remained for a few weeks later and was treated by Dr. Wilson of Lewistown for whose services I wish to express my thanks.

Up to the present time there is no evidence of recurrence of the growth. The patient is here for your inspection and criticism together with the specimen removed and a microscopic section of the original tumor.

In closing, I wish to thank Dr. Godfrey for the able manner in which he administered the anesthesia and Drs. Skillern and Gleason for their valuable assistance and counsel at the second operation and Dr. Reeves for his assistance in the after-treatment.

DISCUSSION.

Dr. Charles A. O'Reilly, Philadelphia: In the diagnosis of beginning carcinoma of the larynx, I wish to call particular attention to the slight but continued hoarseness of the voice, without pain or cough, and without any other known cause to produce it. This is one of the earliest symptoms, and should always lead the examining laryngologist to seek further, as the sharp, shooting pains, as well as glandular enlargement, do not occur until later. When it is possible, it is always well to pass the bronchoscope and remove a small portion of the mass for microscopical examination.

In operation, laryngofissure is the one of choice in a beginning carcinoma of the larynx, especially when the malignant growth is intrinsic, and upon laryngoscopic examination one finds the neoplasm limited to the soft part or confined in a small area; when it does not appear to involve the deeper tissues; when it is still circumscribed, but is larger and occupies a fractional part of one half of the larynx, its origin being from one cord; when it is not ulcerated, and when there are no enlargements of the cervical glands.

Having just returned from Vienna, I find that the method of Harschik is by far the best method of anesthesia, not only in laryngofissure, but also in total extirpation of the larynx. His rule is that, up to ten years of age, chloroform or ether should be used; and after ten years of age, local anesthesia, a two per cent. solution of novocain, both superficial and deeply injected. During the operation, when pain is complained of by the patient, an injection (100) of a mixture of morphin sulphate, 1½ gr., scopolamin, 1/12 gr. and 2½ fl. dr. aquæ destillata, is given. This injection may be repeated as many as two or three times during the operation, if necessary, and I can freely endorse this method, having had the pleasure of doing a total and hemi-extirpation and a laryngofissure in Vienna.

There, they start with liquid food twelve hours after operation; and I have never seen any regurgitation into the wound from the act of swallowing. I am talking about cases in which you have either of the operations mentioned, and no involvement of the esophagus.

Dr. W. Hardin Sears, Huntingdon: In looking over this case, it seems to me the point of early diagnosis should be especially emphasized. To make this possible will require the active coöperation of the family physician into whose hands these patients first fall. We can not urge too strongly upon the general practitioner the necessity of examining the larynx in every case of chronic hoarseness, especially when the patient is thirty-five years of age, or over.

The patient presented by Dr. Mackenzie this morning had been under treatment for six months before he was brought to me, and during that time, although for three months his voice had been but a whisper, no effort whatever had been made to inspect the larynx and its tissues within.

There seems no excuse for permitting these patients to reach the inoperable stage when inspection of the parts can be so easily made.

Dr. George M. Coates, Philadelphia: The point that Dr. Sears has just brought out is very important, and a more thorough course of training in the medical schools would help us. Students should be impressed with the fact that continued hoarseness without any other symptoms should make one suspect carcinoma of the larynx. The general practitioner should be able to make a laryngeal examination and find out whether there is any other cause for the hoarseness. Ballinger says that a general practitioner can make a tentative diagnosis of carcinoma of the larynx in the early stage by continued hoarseness, usually without cough or other cause, and sharp, lancinating pains in the larynx, radiating to the ear, the age being over forty years, and the laryngeal examination revealing some loss of motion in one of the vocal cords. It is not always easy to make a diagnosis, however. Not only the symptoms but the character of the growth and the condition of the larynx itself must be taken into consideration. The microscope can not always be depended on, as Chapelle, of New York, has pointed out, giving a series of cases in which it failed to confirm the clinical findings of epithelioma in cases that proved to be this later, and several cases in which the diagnosis of epithelioma was made by the microscope and the case turned out to be one of lues. Taking the clinical findings with the microscope, however, we ought not to be much in error. Chiori says that although we often hear that it is a mistake to take out a piece of the tumor in the larynx in order to examine it for epithelioma, unless we are prepared to go ahead in a short time with the operation if it proves to be so, yet if you are prepared to go ahead, as you should be, and the patient also should be, then, by all means, take out a piece to confirm the diagnosis.

I should like to ask whether anyone present knows anything about the hemolytic test perfected by Dr. Elsberg of New York some years ago. He tried it in one hundred known cases of carcinoma in other parts of body. It proved positive in every case, and proved positive in but few cases in which there was no carcinoma. It consists in taking blood serum from a normal person and injecting it into the supposedly carcinomatous individual. A distinct inflammatory reaction at the site of injection is obtained if the disease exists. I should like some information regarding this test.

Dr. J. H. McCready, Pittsburgh: I want to emphasize the importance of early diagnosis in carcinoma of the larynx, and also of the direct examination by the laryngoscope. By means of this instrument, I think that we can see the growth as we should see it; we can tell whether there is infiltration in other than the soft parts. A specimen for examination can very easily be removed by the laryngoscope, also. I likewise wish to emphasize the fact that, if other than the soft parts are involved, the patients should not be operated on. I have seen cases in connection with Dr. Chevalier Jackson at the hospital, and almost all the cases that come there have other tissues involved, the glands, cartilage, etc. Very few that come are operable. It is very rare to get a case referred that is favorable for operation. I recommend the general anesthetic for both thyrotomy and laryngectomy.

Dr. Howard F. Pyfer, Norristown: I should like to know when a positive diagnosis of carcinoma of the larynx can be made. I have a patient now, and this knowledge would be of considerable benefit to me in his case. He is suffering from diabetes, and has on the right vocal cord a small growth. He has hoarseness, but there is no glandular involvement and no pain. I have used both direct and indirect inspection. I have watched the tumor from day to day, and have given him washes and have made direct application of alcohol. He is hoarse, it is true, but the tumor is not growing. Now if Sir Morrell Mackenzie, the greatest laryngologist of England, fell in error in the case of the Emperor of Germany, when can we be absolutely certain?

Dr. Coates: I can answer Dr. Pyfer's remark by saying what I said a few minutes ago: take out a piece and have it examined.

Dr. Pyfer: But he has diabetes.

Dr. Coates: I beg your pardon. Then I certainly should not do so.

Dr. McCready: A piece of the growth could be taken out without an anesthetic. In a case of diabetes, I do not think that it would hurt to take out a specimen. It is merely a question of a few seconds to snip off a little piece.

Dr. Pyfer: Suppose that I have interfered with that case and the carcinoma is increased by my interference; do I not shorten the patient's life?

Dr. McCready: Take it out under local anesthesia in such a case.

Dr. John J. Sullivan, Jr., Scranton: The surgical sections, both of the American Medical Association and the state medical society, are trying to get their results a little better by keeping away from inoperable cases. I should hate to operate in a case of diabetes. The man is absolutely incurable; and when it is only one incurable complaint added to another, it would be best to keep away from operation.

Dr. Mackenzie, closing: I have not much to add. I thank the gentlemen for discussing the case, and appreciate their remarks very much.

So far as making an excision of a piece of the tumor for microscopic examination prior to operation, I wish to say that in this case there were certain reasons why we could not do so. These reasons I would prefer not to mention in public; however, I have given them to Dr. O'Reilly privately. Since thyrotomy is relatively a simple operation, in a unilateral tumor of this kind I think it is best to remove the whole growth at least by the operation of thyrotomy. In this patient's first operation, he drank milk on the second day; and on the ninth or tenth day, he went home practically well. You can not do better by the superior route with cocain. So far as the anesthetic is concerned, I am not familiar with the infiltration method; although I know Professor Luc of Paris and his method. I heard him speak in Boston this summer of his infiltration method of anesthesia. He thinks that it is the only method. Our anesthetic was heated ether vapor.

In regard to the question of feeding, an esophageal tube was used as described in the paper and we started to feed the patient as soon as it was thought safe. After ether narcosis, patients frequently vomit; it is nature's effort to eliminate the ether. I was afraid to start feeding too soon, for fear he would regurgitate into the dressings and bring about infection. I adopted what I thought the safest means. I started to feed him through the bowel, knowing that he could live three or four weeks on normal salt solution in the bowel.

RESULTS IN PHILADELPHIA PATIENTS DISCHARGED FROM MONT ALTO IN 1909, ON JANUARY 1, 1913.

BY ALBERT PHILIP FRANCINE, A.M., M.D.,
Philadelphia.

(Read before the National Association for the Prevention of Tuberculosis, Washington, D. C., May 8, 1913.)

The writer is well aware that the character of this investigation is not new; nor, on account of the small number of patients and the limited time since their discharge from the sanatorium, are the figures submitted impressive, but, from the fact that under the follow-up system in vogue in the tuberculosis work of the State Department of Health in Philadelphia these figures can be from time to time supplemented and extended without duplication and with direct continuity, it seemed worth while to attempt a beginning, however limited in scope, particularly as the existing facilities for such study at the Philadelphia dispensary render the results peculiarly accurate.

Two of the social workers (who are all trained nurses) of the State Tuberculosis Dispensary (No. 21) in Philadelphia devote their entire time to following up discharged sanatorium cases. As soon as a patient is discharged from the state sanatorium (there are now two, one at Mont Alto opened in 1908, with a capacity of

1050 beds; and the other at Cresson, opened in 1912, with a capacity of 350 beds) that information with other data as to condition on discharge, length of stay, etc., is at once forwarded to the dispensary. A nurse is dispatched to look the patient up, and this course of rounding up and keeping in touch with discharged sanatorium patients is repeated with all patients who are not under active treatment. To indicate the effectiveness of this system, let me call attention to the fact that of 443 Philadelphia patients discharged from Mont Alto in 1909, the only cases of which we have not full records to-day (*i. e.* with six months) are 18 who are known to have left the city and so been lost sight of.

All the deaths in this series were confirmed from official records; and in this connection there are two ways of interpreting such records, *i. e.*, either in favor of your results, or against them. I have chosen the latter course. For instance, when the death record placed tuberculosis as a contributing cause and nephritis or heart failure as the primary cause, all such cases are recorded here as deaths from tuberculosis. There are two reasons which justify this; first, because fundamentally in such cases tuberculosis is the cause of death, even if a complaisant physician may with apparent justice and willingness to save the family's feelings or interests diagnose some complicating condition as being the primary cause; and, second, because in many of the cases we were either directly or indirectly familiar with the progress of the pulmonary condition. For instance, one patient who died, according to the official record, of abortion was a woman in the last stages of tuberculosis, whose abortion and death were directly due to her pulmonary condition. Another far-advanced dying patient, with a painful laryngitis, killed himself to escape from the inevitable and delayed end. Both these and all similar cases appear in these figures as deaths from tuberculosis.

The data analyzed in this paper, is entirely from the nurses' reports, and in many instances physical reëxaminations, made during the months of December, 1912, and January and February, 1913, upon patients discharged from Mont Alto in 1909. I have in statistical methods and arrangement followed the admirable report of Dr. H. M. King for the Loomis Sanatorium in last year's transactions of the National Association for the Prevention of Tuberculosis which seems to me to furnish an illuminating standard for such work.[1]

There were discharged from Mt. Alto during 1909 a total of 443 patients from Philadelphia. Of the 443 cases, there are deducted 26, who stayed less than 31 days, and 18 cases, who left the city upon their return, and are untraceable, leaving a total of 399 cases available for the present study.

INQUIRY INTO THE PHYSICAL STATUS OF 399 PHILADELPHIA PATIENTS DISCHARGED ALIVE FROM THE PENNSYLVANIA SOUTH MOUNTAIN SANATORIUM (MONT ALTO) DURING THE CALENDAR YEAR 1909, UPON JANUARY 1, 1913.

The data in regard to each case was analyzed upon the following points: Sex; age; married or single; with or without family history of tuberculosis; with or without tubercle bacilli in sputum (previous to admission); citizens or noncitizens of the United States; nativity; length of stay at sanatorium; results, the deaths being arranged according to sex and year of death.

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[1] But inasmuch as Dr. King reports in one group patients discharged during four years, and I during one, and he reports for this group approximately six years later, and I four years later, it is evident that any comparison or correlation between the two sets of figures is impossible. In this connection it would seem highly desirable that some system should be adopted whereby there might be uniformity to reports of this character, in order that it might be possible to compare more clearly individual results, and also to group them by years, so that by the larger number of cases thus available more definite percentages could be arrived at. At present in many essential details it is not possible to make use in this way of any of the different valuable and laborious reports which have already appeared.

The 399 available patients are divided as follows into condition on admission to the sanatorium:—

Incipient, 54 or 13.55% of 399.
Moderately advanced, 167 or 41.85% of 399.
Far advanced, 178 or 44.61% of 399.

The 399 patients are divided as follows into sexes:—

Males, 264 or 66.16% of 399.
Females, 135 or 33.83% of 399.

The number of patients alive January 1, 1913 was:—

Males, 143 or 54.16% of 264 males.
Females, 80 or 59.25% of 135 females.
Total, 223 or 55.88% of both sexes.

The number of patients who died before January 1, 1913 was:—

Males, 121 or 45.83% of 264 males.
Females, 55 or 40.74% of 135 females.
Total, 176 or 44.11% of both sexes.

LIVING AND DEAD ACCORDING TO CONDITION ON ADMISSION.

Of the 399 patients, there were incipient:—

Males, 29 or 10.98% of 264 males.
Females, 25 or 18.51% of 135 females.
Total, 54 or 13.55% of both sexes.

The number of incipient patients alive, January 1, 1913, was:—

Males, 28 or 96.55% of 29 males.
Females, 24 or 96.00% of 25 females.
Total, 52 or 96.29% of both sexes.

The number of incipient patients dead, January 1, 1913, was:—

Males, 1 or 3.44% of 29 males.
Females, 1 or 4.00% of 25 females.
Total, 2 or 3.70% of both sexes.

Of the 399 patients, there were moderately advanced:—

Males, 101 or 38.25% of 264 males.
Females, 66 or 48.88% of 135 females.
Total, 167 or 41.85% of both sexes.

The number of moderately advanced patients alive, January 1, 1913:—

Males, 73 or 72.27% of 101 males.
Females, 44 or 66.66% of 66 females.
Total, 117 or 70.05% of both sexes.

The number of moderately advanced patients dead, January 1, 1913:—

Males, 28 or 27.72% of 101 males.
Females, 22 or 33.33% of 66 females.
Total, 55 or 29.94% of both sexes.

Of the 399 patients, there were far advanced:—

Males, 134 or 50.75% of 264 males.
Females, 44 or 32.59% of 135 females.
Total, 178 or 44.60% of both sexes.

The number of far advanced patients alive, January 1, 1913:—

Males, 42 or 31.34% of 134 males.
Females, 12 or 27.27% of 44 females.
Total, 54 or 30.33% of both sexes.

The number of far advanced patients dead, January 1, 1913:—

Males, 92 or 68.65% of 134 males.
Females, 32 or 72.72% of 44 females.
Total, 124 or 69.66% of both sexes.

Total dead of 399 cases, January 1, 1913:—

Males, 121 or 45.85% of 264 males.
Females, 55 or 40.74% of 135 females.
Total, 176 or 44.11% of both sexes.

AGE INCIDENCE.

Incipient:—

5-10 years, 3 patients, or 5.55% of 54 cases.
11-20 years, 21 patients, or 38.88% of 54 cases.
21-30 years, 24 patients, or 44.44% of 54 cases.
31-40 years, 6 patients, or 11.11% of 54 cases.

Moderately advanced:—

5-10 years, 0 patients.
11-20 yrs., 37 patients, or 22.15% of 167 cases.
21-30 yrs., 68 patients, or 40.71% of 167 cases.
31-40 yrs., 41 patients, or 24.55% of 167 cases.
41-50 yrs., 16 patients, or 9.58% of 167 cases.
51-60 yrs., 4 patients, or 2.39% of 167 cases.
61-70 yrs., 1 patient, or 0.59% of 167 cases.

Far Advanced:—

5-10 yrs., 1 patient, or 0.56% of 178 cases.
11-20 yrs., 15 patients, or 8.42% of 178 cases.
21-30 yrs., 70 patients, or 39.32% of 178 cases.
31-40 yrs., 51 patients, or 28.65% of 178 cases.
41-50 yrs., 34 patients, or 19.10% of 178 cases.
51-60 yrs., 7 patients, or 3.93% of 178 cases.

It will be noted that these age charts coincide with the well-established fact of the incidence of tuberculosis, or rather the beginning of active symptoms, in the early and most active years of life. Thus of the incipient cases, 83.32 per cent. fall within the second and third decades; and of the moderately advanced, 87.41 per cent. in the second, third and fourth decades; and in the far advanced, 87.07 per cent. in the third, fourth and fifth decades. This relation is further borne out and perhaps more clearly shown from the fact that the average age on admission to the sanatorium among the incipient cases was 21, among the moderately advanced 28, and among the far advanced 32 years. It might also be inferred from this that the advanced cases were of about ten years' duration. In these figures there were only four persons in the first decade, *i. e.* ten or under, as the Children's Pavilion had not at this time been opened, so that these figures are even more convincing of the relation of the active symptoms of tuberculosis and early adult life.

MARRIED OR SINGLE.

Of the 54 incipient cases there were:—
Married, 39 or 72.22% of both sexes.
Unmarried, 15 or 27.77% of both sexes.

Of the 167 moderately advanced cases there were:—
Married, 85 or 50.89% of both sexes.
Unmarried, 82 or 49.10% of both sexes.

Of the 178 far advanced cases there were:—
Married, 103 or 57.86% of both sexes.
Unmarried 75, or 42.13% of both sexes.

Of the 399 cases there were:—
Married, 227 or 56.89% of both sexes.
Unmarried, 172 or 43.10% of both sexes.

It will be observed from these figures that both in regard to the individual classification and the total number, the married patients were in the majority.

FAMILY HISTORY OF TUBERCULOSIS.

Of the 54 incipient cases there were:—
With, 25 or 46.29% of both sexes.
Without, 29 or 53.70% of both sexes.

Of the 167 moderately advanced cases there were:—
With, 78 or 46.70% of both sexes.
Without, 89 or 53.29% of both sexes.

Of the 178 far advanced cases there were:—
With, 85 or 47.75% of both sexes.
Without, 93 or 52.25% of both sexes.

Of the 399 cases there were:—
With, 188 or 47.11% of both sexes.
Without, 211 or 52.88% of both sexes.

It is interesting to note that in each class and in the total number, a family history of tuberculosis was obtained in almost half of the cases, *i. e.* 47.11 per cent. with, as against 52.88 per cent. without such history. These figures for a family history of tuberculosis are higher than found in private sanatoriums, principally I think, because of bad housing conditions, lack of cleanliness and attention to domestic hygiene among the poor. There is much more family infection in this class than among the well-to-do. No doubt a number of cases in the families of the patients existed without the patient's knowledge or acknowledgement. Certainly the statement seems justified that among the indigent fully 50 per cent. of cases have tuberculosis in their immediate families or family households.

TUBERCLE BACILLI IN SPUTUM ON ADMISSION.

Of the 54 incipient cases there were:—
With bacilli, 25 or 46.29% of both sexes.
Without, 29 or 53.70% of both sexes.

Of the 167 moderately advanced cases there were:—
With bacilli, 117 or 70.05% of both sexes.
Without, 50 or 29.94% of both sexes.

Of the 178 far advanced cases there were:—
With bacilli, 123 or 69.10% of both sexes.
Without, 55 or 30.89% of both sexes.

Of the 399 cases there were:—
With bacilli, 265 or 66.41% of both sexes.
Without, 134 or 33.58% of both sexes.

A certain number of patients are sent into the state dispensary by hospital or private physicians to be listed for Mont Alto. Such patients often remain under the care of the physician referring them until admitted to the sanatorium and thus pay only one visit to the state dispensary. Usually a sputum report is not sent with these cases, and where the disease is clinically evident, the patient is listed without being required to report again with his sputum.

CITIZENS AND NONCITIZENS, BOTH SEXES.

Of the 54 incipient cases there were:—
Citizens of the U.S.A., 36 or 66.66%.
Aliens and unnaturalized, 18 or 33.33%.

Of the 167 moderately advanced cases there were:—
Citizens of the U. S. A., 108 or 64.67%.
Aliens and unnaturalized, 59 or 35.32%.

Of the 178 far advanced cases there were:—

Citizens of the U. S. A.,	129	or	72.47%.
Aliens and unnaturalized,	49	or	27.52%.

Of the 399 patients there were:—

Citizens of the U. S. A.,	273	or	68.42%.
Aliens and unnaturalized,	126	or	31.57%.

NATIVITY.

	Incipient.	Mod. Adv.	Far Adv.
U. S. A.	32	95	104
Russia.	12	41	21
Ireland.	3	6	22
Germany.	2	6	9
England.	0	4	8
Sweden.	0	0	4
Scotland.	0	1	3
Roumania.	2	3	3
Italy.	1	8	1
France.	0	0	1
Armenia.	0	0	1
Austria.	1	2	1
China	1	0	0
Norway	0	1	0
	54	167	178

Of the 399 patients there were:—

Native born,	231	or	57.89%.
Foreign born,	168	or	42.10%.

Of the 273 patients who were citizens of the U. S. A. there were:—

Native born,	231	or	84.61%.
Foreign born,	42	or	15.38%.

It will thus be seen from the above that the sanatorium admitted unnaturalized aliens in the proportion of about one alien to two citizens. No distinction is made in the order of admission of native and foreign-born citizens. It is impossible for the sanatorium to admit indiscriminately all foreigners who apply, as by this course there would be no room for citizens.

LENGTH OF STAY.

The total length of stay at the sanatorium was as follows:—

Incipient: 54 patients stayed a total of 10,792 days; average length of stay for each patient, 6½ months.

Moderately advanced: 167 patients stayed a total of 40,813 days; average length of stay of each patient 8 months.

Far advanced: 178 patients stayed a total of 41,956 days; the average length of stay of each patient in this group was 7½ months.

The combined length of stay of the 399 patients, including readmissions, was 93,561 days, the average length of stay of each patient in this group was 7½ months.

Every patient admitted to the sanatorium is required to stay four months. This is explained to him before he goes, and if he leaves the sanatorium, that is, insists on his discharge before his time is up, he is listed as "discharged against advice." Under this circumstance he can not be received again for treatment at any of the state dispensaries or readmitted to the sanatorium. This is a wise and necessary ruling, as it would be impracticable to have patients coming and going at their own will. Patients who break any of the other rules of the sanatorium, like smoking, fighting, going off the grounds after hours, etc., are dismissed and can not be received for treatment by the department again. Dealing as we do with many ignorant and wayward patients, this regulation is absolutely necessary for the good regime and proper conduct of so large a sanatorium. I may add that under the admirable supervision at Mont Alto, dismissal for infraction of the rules is rare; and the same is true in regard to patients asking for their discharge before their four months' period is up. Such an occurrence is relatively uncommon.

CLASSIFICATION.

Following Dr. King, I have classified these cases in relation to ultimate results as health satisfactory, health unsatisfactory and dead. In regard to the first two terms, as all these cases belonged to the small wage earning class and were indigent, no better criterion of restored health could be adduced than their ability to return to their regular work, or in the case of the women to their regular household duties or employment and remain clinically well. With the facilities which were at my disposal, it was possible to obtain this data at first hand and very accurately; and in the follow-up card adopted by the department, the items of present and previous hours of employment, present and previous earnings, in association with freedom from symptoms, were most carefully canvassed. In addition, a relatively large number of the patients were prevailed upon to return to the dispensary for a reëxamination.

These cases are classified (awaiting the adoption of the classification of the National Association) as follows:[2]

HEALTH SATISFACTORY, JANUARY 1, 1913.

Apparently cured: Working at regular employment on full time and clinically well for past 2 years.

Arrested: Working at regular employment on full time and clinically well for past 6 months.

Apparently arrested: Earning capacity reduced, but working at lighter work or shorter hours. General condition impaired but without fever or other acute symptoms. Partly self supporting. At work for over 3 months.

HEALTH UNSATISFACTORY.

Quiescent: Earning capacity lost. Unable to work without the development of symptoms. Stationary, but condition below par. Not self-supporting. This condition has lasted over two months.

Unimproved: Condition deteriorating. Either under treatment or with some fever or active symptoms.

Dead.

CHART I. MALES AND FEMALES, 399 PATIENTS DISCHARGED FROM MONT ALTO IN 1909.

Condition on Jan. 1, 1913.	Health Satisfactory.					Health Unsatisfactory.					Dead.					Totals.
Condition on Discharge from Sanatorium in 1909, fol. classification. Am. San. Assoc.	Arrested.	Apparently Arrested.	Improved.	Unimproved.	Total.	Arrested.	Apparently Arrested.	Improved.	Unimproved.	Total.	Arrested.	Apparently Arrested.	Improved.	Unimproved.	Total.	(Condition on Discharge 1909)
INCIPIENT CASES, 54, 13.55 PER CENT. OF 399.																Arrested, 14, 25.92% of 54. App. Arrested, 27, 50% of 54. Improved, 11, 20.37% of 54. Unimproved, 2, 3.70% of 54.
Percentages.	100.00	96.29	72.72	....	88.88	.....	.....	27.27	50.00	7.40	.....	3.70	.....	50.00	3.70	
No. Patients.	14	26	8	....	48	.....	.....	3	1	4	.....	1	.....	1	2	
MODERATELY ADVANCED CASES, 167, 41.85 PER CENT. OF 399.																Arrested, 29, 17.36% of 167. App.Arres., 74, 44.31% of 167. Improved, 41, 24.55% of 167. Unimpr., 23, 13.77% of 167.
Percentages.	79.31	75.67	36.58	....	56.28	13.79	10.81	12.19	26.08	13.77	6.89	13.51	51.21	73.91	29.94	
No. Patients.	23	56	15	....	94	4	8	5	6	23	2	10	21	17	50	
FAR ADVANCED CASES, 178, 44.61 PER CENT. OF 399.																Arrested, 4, 2.24% of 178. App.Arres., 28, 15.73% of 178. Improved, 74, 41.57% of 178. Unimpr., 72, 40.44% of 178.
Percentages.	50.00	46.42	12.16	1.38	14.04	25.00	17.85	17.56	13.88	16.29	25.00	35.71	70.27	84.72	69.66	
No. Patients.	2	13	9	1	25	1	5	13	10	29	1	10	52	61	124	
Totals.	82.97	73.64	25.39	1.03	41.85	10.63	10.07	16.66	17.52	14.03	6.38	16.27	57.93	81.44	44.11	
	39	95	32	1	167	5	13	21	17	56	3	21	73	79	176	

Total arrested, 47, 11.77% of 399; total apparently arrested, 129, 32.33%; total improved, 126, 31.57%: total unimproved, 97, 24.31%.

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[2] It will be seen that the above corresponds to the schema adopted at the same meeting of the National Association, Washington, 1913, at which this paper was read, with the exception that I have grouped the quiescent and improved under the one heading, *i. e.* quiescent. As in both quiescent and improved under the classification of the National Association the health is essentially unsatisfactory, this grouping does not in any way effect the ultimate results as given. The following is the classification of the National Association 1913.

CLASSIFICATION OF SUBSEQUENT OBSERVATIONS.

Apparently Cured: All constitutional symptoms and expectoration with bacilli absent for a period of two years under ordinary conditions of life.

Arrested: All constitutional symptoms and expectoration with bacilli absent for a period of six months; the physical signs to be those of a healed lesion.

Apparently Arrested: All constitutional symptoms and expectoration with bacilli absent for a period of three months; the physical signs to be those of a healed lesion.

Quiescent: Absence of all constitutional symptoms; expectoration and bacilli may or may not be present; physical signs stationary or retrogressive; the foregoing conditions to have existed for at least two months.

Improved: Constitutional symptoms lessened or entirely absent; physical signs improved or unchanged; cough and expectoration with bacilli usually present.

Unimproved: All essential symptoms and signs unabated or increased.

Died.

CHART II. MALES AND FEMALES. 399 PATIENTS DISCHARGED FROM MONT ALTO IN 1909.

Condition, Jan. 1, 1913.	Health Satisfactory.				Health Unsatis.			Dead.
Classification, Jan. 1, 1913, following National Association.	Apparently Cured.	Arrested.	Apparently Arrested.	Total.	Quiescent.	Unimproved.	Total.	Dead.
INCIPIENT CASES, 54, 13.55 PER CENT. OF 399.								
No. Patients.	43	2	3	48	3	1	4	2
Percentages.	79.62	3.70	5.55	88.88	5.55	1.85	7.40	3.70
MODERATELY ADVANCED CASES, 167, 41.85 PER CENT. OF 399.								
No. Patients.	70	5	19	94	9	14	23	50
Percentages.	41.91	2.99	11.37	56.28	5.38	8.38	13.77	29.94
FAR ADVANCED CASES, 178, 44.61 PER CENT. OF 399.								
No. Patients.	19	4	2	25	7	22	29	124
Percentages.	10.67	2.24	1.12	14.04	3.93	12.35	16.29	69.66

CHART III. TOTALS. 399 PATIENTS DISCHARGED FROM MONT ALTO IN 1909.

Cond. Jan. 1, 1913.	Health Satisfactory.				Health Unsatisfactory.				Dead.			
Cond. on Admission to Sanatorium.	Incipient.	Moderately Advanced.	Far Advanced.	Total.	Incipient.	Moderately Advanced.	Far Advanced.	Total.	Incipient.	Moderately Advanced.	Far Advanced.	Total.
No. Patients.	48	94	25	167	4	23	29	56	2	50	124	176
Percentages.	88.88	56.28	14.04	51.85	7.40	13.77	16.29	14.03	3.70	29.94	69.66	44.11

ULTIMATE RESULTS.

54 Male and Female. Incipient Cases.

Of the 54 incipient patients there were on January 1, 1913:—

Apparently cured,	43 or 79.62%	both sexes.
Arrested,	2 or 3.70%	both sexes.
Apparently arrested,	3 or 5.55%	both sexes.
Quiescent,	3 or 5.55%	both sexes.
Unimproved,	1 or 1.85%	both sexes.
Dead,	2 or 3.70%	both sexes.

167 Male and Female. Moderately Advanced Cases.

Of the 167 moderately advanced patients there were on January 1, 1913:—

Apparently cured,	70 or 41.91%	both sexes.
Arrested,	5 or 2.99%	both sexes.
Apparently arrested,	19 or 11.37%	both sexes.
Quiescent,	9 or 5.38%	both sexes.
Unimproved,	14 or 8.38%	both sexes.
Dead,	50 or 29.94%	both sexes.

178 Male and Female. Far Advanced Cases.

Of the 178 far advanced patients there were on January 1, 1913:—

Apparently cured,	19 or 10.67%	both sexes.
Arrested.	4 or 2.24%	both sexes.
Apparently arrested,	2 or 1.12%	both sexes.
Quiescent,	7 or 3.93%	both sexes.
Unimproved,	22 or 12.35%	both sexes.
Dead,	124 or 69.66%	both sexes.

EXPLANATION OF CHARTS.

Chart 1 shows results on January 1, 1913, of the 399 patients in relation to condition on discharge from the sanatorium, following the classification of the American Sanatorium Association, into arrested, apparently arrested, improved and unimproved.

Chart 2 shows the results on January 1, 1913, of the 399 patients in relation to condition on admission to the sanatorium, following the classification of the National Association for the Prevention of Tuberculosis, into incipient, moderately advanced and far advanced.

Chart 3 groups the totals in relation to condition on admission and condition on January 1, 1913.

INCIPIENT CASES.

Chart 1. Of the 399 cases covered by this chart, 54, or 13.55 per cent., were incipient cases.

Of these incipient cases 48, or 88.88 per cent., are in a satisfactory condition of health; 4, or 7.40 per cent., are in an unsatisfactory condition of health; and 2, or 3.70 per cent., are dead. See squares marked "Total" under Health Satisfactory, Health Unsatisfactory and Dead.

Of the 14 cases discharged arrested from the sanatorium in 1909 (see column at right of chart), 14, or 100 per cent., are in satisfactory health to-day.

Of the 27 cases discharged apparently arrested, 26, or 96.29 per cent., are in satisfactory health to-day.

Of the 11 cases discharged as improved, 8, or 72.72 per cent., are in satisfactory health to-day.

Of the 2 cases discharged as unimproved, none are in satisfactory health to-day.

Of the 11 cases discharged as improved 3, or 27.27 per cent., are in unsatisfactory health to-day; of the 2 cases discharged as unimproved 1, or 50 per cent., is in unsatisfactory health to-day. One, or 3.70 per cent., of the 27 cases discharged apparently arrested is dead to-day; 1, or 50 per cent., of the 2 cases discharged as unimproved is dead to-day.

The same schema is followed with the moderately advanced and far advanced.

The totals at the foot of the chart refer to the condition of the 399 patients on discharge from the sanatorium.

Chart 2. Of the 54 cases admitted to the sanatorium as incipient, 43, or 79.62 per cent., are apparently cured[3] on January 1, 1913.

Of the 54 cases admitted as incipient, 2, or 3.70 per cent., are arrested to-day.

Of the 54 cases admitted as incipient, 3, or 5.55 per cent., are apparently arrested to-day.

Of the 54 incipient cases, 48, or 88.88 per cent., are in a satisfactory condition of health to-day.

The same schema is followed with the moderately advanced and far advanced. Chart 3 groups the totals. Thus in these three charts we have completed data in regard to all the classifications of these patients and their present condition.

CHART IV. SHOWING PERCENTAGE AND YEAR OF DEATH OF 176 PATIENTS DISCHARGED ALIVE IN 1909.

	Year.	Survivors.	Deaths.	Percentage.
Incipient:				
	1909	54	0	....
	1910	54	1	1.85
	1911	53	1	1.89
	1912	52	0	....
			2	
Moderately Advanced:				
	1909	167	8	4.79
	1910	159	21	13.20
	1911	138	11	7.97
	1912	127	10	7.87
			50	
Far Advanced:				
	1909	178	13	7.30
	1910	165	53	32.13
	1911	112	40	35.71
	1912	72	18	25.00
			124	

This chart explains itself and is of particular interest, as showing the rate and year of death in the different classes. It is the writer's plan to supplement this, as deaths occur in the 1909 cases; and to make similar records for patients discharged in 1910, '11, '12, etc. The above figures are too few to draw any conclusions from, but supplemented in this way it may, with greater numbers, be possible to construct quite definite mortality curves.

The figures given in the foregoing pages need little comment as they explain in a very simple form, and with clearness, the results in the 399 cases.

In conclusion, it may be stated that this report was undertaken, first, on account of the special facilities (*i. e.* personal investigations by trained nurses) for rendering the results accurate, not only in the interpretation of the patients' condition, but from the point of view of elapsed time (*i. e.* completed in three months); and secondly, because these figures can be supplemented later without much labor, as these cases will be subsequently followed up under our system.

In making any comparison of the results given, with those of private sanatoria, the social status of the patients treated at Mont Alto should be borne in mind. It is hardly to be expected that the percentages of ultimate results would be as favorable where indigent patients only are received, who return to poor surroundings and exacting conditions of labor. But in spite of this, the percentages are very good.

So far as I know there are at present no suggestions or measures before either the American Sanatorium Association or the National Association for the Prevention of Tuberculosis leading toward greater uniformity in statistical methods and arrangement in reports on ultimate results. I venture to suggest the great need for and the advisability of the adoption of some standard, and would refer to the footnote[1] as giving specific reasons for this.

Finally I want to acknowledge my indebtedness to Mr. J. B. Gibb, actuary of the Penn Life Insurance Company, for kind assistance, particularly the suggestion of Chart 4.

"He who helps a child helps humanity with a distinctness, with an immediateness, which no other help given to human creatures in any stage of their human life can possibly give again."—Phillips Brooks.

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[3] Classification of National Association, 1913.

REMARKS ON PROPHYLAXIS AND TREATMENT IN TYPHOID FEVER.

BY CHARLES LONG, M.D.,
Wilkes-Barre.

(Read before the Lehigh Valley Medical Association, at Bethlehem, January 16, 1913.)

It is not my purpose to bring to you today a treatise on typhoid fever from the scientist's point of view of instruction, nor shall I go into the splendid hopefulness of the hygienist, who plans to wipe out the disease; but I wish to present to brother practitioners, who know the science and who must face the present condition, certain methods that I have used which your worthy president has considered of sufficient success and suggestiveness to warrant your consideration.

As a usual thing we in the city of Wilkes-Barre do not see many cases of the disease in our private practice. With the exception of two epidemics, that of Plymouth in the year 1885 in which there were more than eleven hundred cases with a mortality of ten per cent. reported, and a rather localized epidemic in Wilkes-Barre in 1889 in which there were about three hundred cases reported, and which followed the water course of only one of our supply basins, we have had comparatively few cases in the last thirty years. Indeed our table of vital statistics gives only twenty cases reported in the year ending December 1, 1912, in a population of almost 70,000 inhabitants. This record, however, does not include the patients in the hospitals coming from the surrounding towns. And yet we do see quite a number of typhoid cases in consultation practice and hospital experience; these you see coming largely from the surrounding mining towns, lumbering and road camps and from the farms.

My hospital service falls at the end of the year including the months of October, November, and December and it is of my hospital experience in the past four years that I especially wish to speak. During that time, I have had under my charge sixty-eight cases of typhoid fever in the Wilkes-Barre City Hospital, all recovering except one, and that patient was suffering not only from typhoid fever but was in an active state of tuberculosis, so it is difficult to state whether the death should be attributed to typhoid fever or to tuberculosis. Richard C. Cabot says that ninety-two per cent. of typhoid fever diagnoses in the Massachusetts General Hospital are correct, reasoning from the clinical diagnosis and the condition found on the post-mortem table. We might include my one death among the eight per cent. of mistaken diagnoses; but even including it among the typhoid cases, the mortality percentage would be only one and one half per cent., a record that any hospital may report with some pride.

Perhaps you will think that we have dealt with mild cases; rather, that our infection in the past four years has been mild. In sixty-eight cases this would be a singular coincidence, and as a matter of fact it is not true. We have had some mild infections of course. Those of you who are connected with hospitals are aware of the fact that many cases are not sent in until they seem almost hopeless or until the home nurses are exhausted.

Many of these records show cases with hemorrhages; some with repeated hemorrhages, one patient having had eleven in twenty-four days. One woman had not only hemorrhages but a five months' miscarriage as a complication. Several patients had severe vomiting, one, indeed so severe that rectal feeding had to be resorted to. There were three cases of cholecystitis as a complication, one of which came to the operating table, where was found a much thickened and enlarged gall bladder, pus and two large gallstones. The operation was performed in the third week of typhoid infection. The patient is making a satisfactory convalescence.

We have had the average number of relapses. There have been no cases of intestinal perforation. Several cases were complicated with pneumonia, and bronchitis was not uncommon.

In one case the brain symptoms were so severe that lumbar puncture was performed for a suspected meningitis; this puncture gave great relief to an active delirium. The ages of the patients ranged from five to fifty-four years.

The success in the treatment of this series of cases is the success that we all desire and that we can all attain by giving proper attention to the individual case; that is the key note, not only to treat the typhoid fever, but to be constantly on the watch in each particular case for extraordinary symptoms.

It is almost needless to mention that the common cause of typhoid fever is the Eberth bacillus found especially in the feces and carried by food or drink to the alimentary canal. Nesbitt of North Carolina in a recent article truly says, "The typhoid problem is caused by the exposure of infected feces to flies, and by the pollution of soil and water." Therefore. the first attempt at typhoid control must be directed toward sanitary regulation or disposal of the typhoid excreta.

At the Wilkes-Barre City Hospital the disease is treated in the general medical ward right among other medical patients, but there is a rigid typhoid technic to prevent spread of infection. The stools and urine must stand for one half an hour in chloronaphtholum before being consigned to the sewer. The linen is soaked in a 1 to 40 carbolic solution for not less than three hours, but then is permitted in the general laundry. The dishes are thoroughly boiled before being washed. As a matter of course, every hospital or individual physician may have a preference as to the antiseptic or methods used; each may be as satisfactory as ours if properly and thoroughly applied. I think I may safely say that no case of typhoid fever has developed among the patients in the hospital in recent years; but I can not say as much for the nurses. There were four cases of infection among them from September 11, 1909, to January 14, 1912, contracted while nursing in the medical ward, two of whom came under my direct care. This led me to advise the latest method of prophylaxis which has been so eminently successful in the army and navy; that is, immunizing with anti-typhoid vaccine.

This vaccination was performed very generally in the spring of 1912 among the interns, nurses and orderlies. It was not compulsory but I am glad to say that with very few exceptions the protection was accepted by the attendants. The result has been most satisfactory. The reaction to the vaccine was either negative or very mild and when any reaction did occur was more marked after the second of the three injections. There have been no cases of typhoid fever among the nurses or attendants since.

I have nothing to add to any textbook description of the diagnosis in typhoid fever except to call your attention to the fact that too much emphasis is put upon diarrhea as the chief symptom. I find constipation as often, even more often, and I am glad to find it so, for I consider it almost an axiom that typhoid fever with constipation permits a favorable prognosis. In every suspected case we use the Widal reaction to verify the diagnosis.

I have been asked to read this paper because my treatment is somewhat different from the general method. I have joined the ranks, perhaps I may say that I have been among the pioneers. in feeding typhoid fever patients. For a matter of fifteen years I have refused to believe that a liquid diet was the only reasonable one in this disease; having been led to this conclusion by the fact that many patients reacted badly on a milk diet.

Without entering into the caloric requirements of patients or the caloric efficiency of foods, all of which can be easily found in any modern textbook; the following is what I permit my typhoid patients: Force water, milk, broths, custards, junket, light puddings, very soft boiled egg, poached egg, buttered toast, milk toast, cooked cereals, baked potato, orange juice, apple sauce, baked apple, broiled lamb chop, broiled scraped beef, white meat of chicken. Not all in one day, of course, but as I said before each patient is watched solicitously and articles of diet are added as the patient's condition permits. The same instruction as to diet is scarcely ever given for any two patients; for each patient there is one correct method and this must be sought and found.

Slight diarrhea does not affect the diet, but severe diarrhea causes me to change to a liquid diet until it is checked and then return to feeding. Hemorrhage means the withdrawal of all food until danger of hemorrhage is passed and again return to feeding.

While we immunize, the treatment with vaccine is as yet not convincing, so as a curative remedy we have not tried it.

Except for one remedy the medicinal treatment is symptomatic. That one exception is compound chlorin solution. I I have used this remedy in one- to two-dram doses every four hours in every case of typhoid fever under my care for a number of years. Whether it is better than other drugs I do not know, but my results have been so good that my confidence in it grows as my cases increase in number. Strychnin is employed in cases in which the pulse flags and hypodermatic injections of camphorated oil when the heart gives evidence of failure. The treatment of every case begins with a cathartic but later I prefer enemas when necessary. It has been a number of years since I have made a typhoid fever patient suffer a cold bath, but ice bags are constant to the head and sometimes to the abdomen and there is a standing order for cold sponge when the temperature reaches 102.5° F. Complications are treated as they arise.

In conclusion, I can not claim that this method of treatment shortens the disease, nor are there fewer relapses, but it does shorten the period of convalescence. The patient loses less strength and weight and is sooner fitted to follow his usual avocation than on the liquid diet treatment. Whether the insignificant mortality is due to the treatment or to good luck a greater number of cases and the future must determine.

PSYCHOPATHOLOGIC PHASES OBSERVABLE IN INDIVIDUALS USING NARCOTIC DRUGS IN EXCESS.

BY C. C. WHOLEY, M.D.,
Pittsburgh.

(Read before the American Society for the Study of Alcohol and Other Narcotics, Washington, D. C., December 10-11, 1912.)

Any individual may become addicted to the excessive use of narcotic drugs. The majority of my cases represent the average individual with the average heredity and environment. These persons have generally acquired their habit accidentally. It is, therefore, fallacious and unjust to refer without qualification to drug users as a class inherently neurotic and degenerate. No drug user should be labeled with the stigma of such terms, however unpromising he may look, unless his history warrants it. It is surprising that drug-taking, particularly alcoholism, is not more prevalent. We are confronted with the fact that most individuals sometime in their lives are fairly well tested as to their ability to withstand alcoholic indulgence. Alcohol is fed to infants; depended upon by the laborer, and by the business man; it appears on tables everywhere as a drink, or in various foods; it is the common medium of good fellowship. The fact that one tenth of the amount of morphin and cocain imported would suffice for all legitimate medical needs shows how commonly people are exposed to these insidious drugs. They seem to be recklessly prescribed, and are notoriously easy to obtain.

There are many individuals whose powers of resistance, by reason of inheritance and environmental factors, are merely sufficient to enable them to maintain a healthy balance. They have enough nerve stability to carry them through an efficient life provided no exceptional strain is placed upon them. When such persons come into contact with narcotizing drugs, their delicate balance is likely to be overthrown; the nervous organism has no reserve with which to meet the added demand made upon it by the inroads of the drug. These individuals are not necessarily neurasthenic: they have been endowed with no more endurance than the ordinary routine of each day would demand.

There is another individual who is congenitally just short of the balance which the above person normally possesses. This individual is inherently neurotic. His nerve endowment is not quite sufficient to enable him to live from day to day comfortably and effectively. He will, therefore (a mere biologic incident in his struggle for self-preservation), desperately grasp at whatever seems to aid his own inadequate efforts. When drugs come his way, with their seeming power to increase his flagging energy, or to bring peace and order into his turbulant, chaotic, harassed existence, it is inevitable that he shall anchor himself by their use. These are individuals whom physicians should particularly safeguard; it is hazardous for them even once to experience the soothing influence of an opiate.

In addition to the normal individuals and the neurotic ones who get into drug habits, there are a few fairly well-defined types, distinctly pathologic, who seem especially likely to become drug users. A type, noticeably prone to narcotism is that known as the cyclothymiac, a class of individuals possessing a peculiar emotional instability which, as a general thing, manifests itself in periods of depression alternating with periods of elation. This class represents various shadings within that group of borderland cases showing manic-depressive characteristics. To the casual observer they may seem merely erratic. We find at times among them people of exceptional talent. And, curiously, it is not so often the depressed individual as the elated who becomes addicted to the excessive use of drugs. This elated, or hyperthymic phase, induces a feeling of good-fellowship, a restlessness, a surplus energy which seems often to find a satisfying outlet in a narcotic, such as alcohol or morphin.

A second pathologic type is that known to psychiatry as the constitutional immoral. Individuals of this class invariably furnish a history of a self-willed childhood. They have been pig-headed, and often cruel. Consequently, for the sake of domestic peace they have as children been pampered and undisciplined. As adults they show undeveloped moral and ethical sense, impatience at interference, lack of endurance for physical or mental discomfort. Such individuals are often athletic and may be extremely popular with their fellows. But they are irresponsible, out for fun. Naturally they drift into dissipated circles; and hence into the use of narcotics. In this class we find among others the ne'er-do-well, the tramp, the petty thief, the prostitute. Closely associated with the constitutionally immoral group there are some distinct types which for purposes of diagnosis must be clearly differentiated. One is the high-grade imbecile; another, but recently more generally recognized as of especial significance, is known as the heboid. The latter mental condition is often difficult to recognize. Persons thus afflicted may at puberty suddenly display freakish conduct, and indulgences out of keeping with their former behavior. This heboid condition is sometimes a precursor of dementia præcox.

These psychiatric types must be carefully differentiated in order to deal intelligently with drug addictions. The cyclothymiacs and the constitutional immorals possess an anomalous make-up which often precludes the possibility of cure. They drift from institution to institution, relapsing again and again; the hopeless picture presented by these persons, really mental cases, has done much to create the practically universal skepticism regarding cure for drug addiction.

In addition to such borderland conditions there are definite insanities upon which drug-taking is frequently engrafted. The individual with early dementia præcox, in his wayward following of the moment's vagary, may become addicted to alcohol or morphin should either come his way; the paretic, as a result of his gradual mental reduction and of his general ethical and moral let-down, is an easy candidate for drug-habit formation. I note these insanities because the mental condition is sometimes overlooked; and the case carelessly regarded as a mere drug addiction, the patient's eccentricities and abnormalities considered as a result of his habit. I recall cases of paresis and of cerebrospinal lues who have gone for years with their true mental condition unrecognized because they were known to be alcoholics. In this connection it may be interesting to note that if there is a potential or latent psychopathic or neuropathic tendency in an individual, narcotic drugs, particularly alcohol, may bring it into noticeable activity. Convulsions, frequently seen in alcoholic wards and commonly known as "whisky fits," often are found to have an epileptic basis. The alcohol has caused the latent disease to manifest itself. In alcoholics afflicted with tabes, excessive drinking is commonly followed by great exacerbation of the tabetic symptoms. It is further interesting to note in this connection that where there is no underlying mental pathology, alcoholism or morphinism may induce a disease picture closely imitating that peculiar to certain insanities, such as paresis, paranoia and even dementia præcox. The syndrome of paresis is frequently imitated, in the well-defined condition of pseudoparesis. This picture, practically always a result of chronic alcoholism, so closely resembles true paresis in physical signs and mental symptoms as to make laboratory investigation of blood and spinal fluid necessary for differential diagnosis. In pseudoparesis, as in true paresis, the patient may develop a feeling of well-being or euphoria, which gives him a boastful confidence in his ability to do whatever he may wish. He may make the most plausible promises and with such an appearance of sincerity and good faith as to mislead those in authority into permitting him a premature freedom which is invariably followed by relapse, for he is still a mental case, at times entirely irresponsible. The pseudoparetic is a dangerous individual. Liberty for him is likely to be fraught with disastrous consequences to his property and to his family.

Before considering the physiologic and psychic necessity for continuance of drug-taking after habit has been established, I wish to speak briefly of how the average individual gets into the morphin habit. And this brings us as physicians face to face with the ugly fact that perhaps the majority of the morphinists in this country to-day were first prescribed their drug by a physician. Many histories reveal the appalling truth that the administration of the drug as a medicine was needlessly carried on until habit was formed. Usually, I find the patient has at first been ignorant of the nature of the drug; after he has come to the habit stage there is little use to inform him of the harmful nature of his panacea, for he has found that for him it seems good and he will not consider parting with this drug until he has reached that stage where he finds himself so impaired as to be unable longer to hold his own. We find patients who have had given into their own hands the hypodermic needle. The use of the needle practically always insures the formation of the habit. There are of course various other ways of acquiring the habit. Women suffering from dysmenorrhea or headache pass on the word that paregoric, laudanum, etc., is a specific. The easy access to patent medicines, containing morphin, beats a well-worn road to habit formation. Yet the fact confronts us that probably the majority of drug addictions can be traced directly to our own prescriptions.

A physiologic and psychic need for continuance has usually been established before the morphinist finally reaches the place where he realizes his condition sufficiently to seek a physician; he has undergone marked changes in body chemistry, and in mental processes and in estimation of ethical values. He presents the picture of abject neurasthenia. He is afraid to continue his drug and has no courage to contemplate the discomfort of discontinuing it. His nervous and mental degeneracy manifests itself largely in fear which dominates his conduct. He fears death, he fears his ability to carry through the day's work; he is afraid of falling into poverty, and is obsessed by the fear that he will not sleep. This factor of fear makes for the continuance of the habit and accounts largely for many relapses when the drug has seemed to be successfully withdrawn.

The fact that a pathologic condition has been induced becomes very evident during the time when therapeutic measures are being applied. "Getting the patient off his drug," as we phrase it, is a small part of the therapy; for when this has been done we have still a condition to face often brought about by years of artificial metabolic and psychic reaction. There is yet to take place a slow nerve rebuilding, and a tedious mental and ethical reconstruction. The habit of quickly relieving pain has become so deeply rooted in the morphinist that when distress appears, as it will during the long period of rehabilitation, he reacts automatically to the pain-stimulus in automatic resort to the accustomed drug. The association reaction to pain or fear of pain, with use of morphin has as it were become fixed in his cerebrospinal centers; he may not want to take his drug; he may despise himself immediately after he has resorted to it; he often can not say why or how his relapse came about.

Not only bodily pain but emotional stress such as remorse, or anxiety, and states of fatigue or exhaustion have been associated in the mind of the morphinist with relief following administration of his drug; therefore, when similar states of emotion or exhaustion arise he is bound to react more or less automatically. It is this reaction, irresistible until he has regained his normal vigor, which leads the drug user to so-called lies and deceptions in order to obtain his drug. He can not be judged by standards which apply to normal persons. He is driven by the same instinctive impulse towards what seems to him self-preservation, as is the starving man, who obtains food by stealth or deception, blind to consequences.

In a word, relapse is most often due to a too brief therapy. The patient is not given a chance for complete recovery. He, as well as those having him in charge, is too prone to think that when the drug is entirely eliminated he can go about his business as an ordinary man. This a patient can rarely do; he has first to fight through a stormy recuperative period of varying length; it may be weeks and it may be months. During this time when he feels upset, or anxious, or depressed, he will be very likely to fall back upon his drug, if he is permitted a freedom which allows him to obtain it.

A PLEA FOR THE ENTIRE REMOVAL OF ENLARGED AND DISEASED TONSILS.

BY BEN CLARK GILE, M.D.,
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Operations upon chronically diseased tonsils[1] have two objects, to relieve the symptoms from which the patient suffers and to prevent the entrance of pathogenic bacteria, which gain access to the body through the tonsillar crypts.

The chief operations, which have been used, are three. The first is tonsillotomy, the amputation of a segment of the gland including the cortex and more or less of the adjoining tissue. Usually this has been done with a ring-shaped knife, called the tonsillotome. Formerly this was very frequently employed by general practitioners, who considered the operation within their legitimate province.

Second stands the obliteration of the tonsillar crypts. This requires that each cavity shall be laid open and its inner surface be denuded, either by a specially devised knife or by the galvanic cautery, so that the reparative process will efface the crypt.

The third operation is tonsillectomy, or enucleation. During the last decade this procedure has steadily grown in favor and has now almost superceded tonsillotomy in this country and in England. Its acceptance is not so general upon the continent of Europe; but there too it has many advocates. It is said that there is now, in some quarters, a reaction in opinion.[2] I hope to show that any return to former methods is unjustifiable.

Tonsillectomy requires the entire removal of the organ together with its fibrous capsule. After a thorough examination both visual and digital and after sensibility has been obtunded by an anesthesia, either local or general, the gland and capsule are dissected out of their cavity, great care being taken not to injure the muscles constituting the velum palati, especially the palatoglossus and palatopharyngeus, which form the ánterior and posterior pillars of the fauces. Bleeding is arrested by pressure, by hemostat forceps, or by ligature. If the procedure has been free from accident, the healing process is usually rapid and no postoperative treatment is required except rest and liquid food. Symptoms of reaction are seldom more severe than after tonsillotomy.

It should, however, be distinctly understood that tonsillectomy is not a trivial operation to be done off hand under poor conditions and with inadequate skill. On the contrary, it requires good facilities for illumination and for anesthesia together with specially adapted instruments. Of the operator it demands accurate and anatomical knowledge, technical skill and manual dexterity. In short, it appertains to the province of the specialist. This has been recognized by the profession at large. When enucleation supplanted tonsillotomy, physicians, who had been accustomed to use the tonsillotome, did not attempt the more radical operation, but sent their patients to laryngologists, to whom almost exclusively the matter now belongs.

It is of course presumed that the specialist knows when, as well as how, to perform enucleation; that he will recognize any anatomical anomaly, which would make it dangerous, and any prohibiting dyscrasia, such as the hemorrhagic diathesis.

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[1] In acute cases scarification may be called for to lessen congestion and it may be necessary to evacuate a peritonsillar abscess.

[2] C. M. Harris: Tonsil Operations, *Jour. A. M. A.*, February 8, 1913, p. 440.

I advocate tonsillectomy because it meets the indications which call for surgical treatment. It puts a stop, once for all, to the embarrassment of respiration, deglutition and phonation; it terminates that unhealthy condition of engorgement and irritability, which being chronic in the tissues of the pharynx is so prone to extend upward through the length of the eustachian tube and thus reach the middle ear, causing inflammation, either catarrhal or suppurative, with the attendant danger of impairing the hearing. Moreover, it closes finally one of the chief portals for the entrance of pathogenic germs, the gateway furnished by the tonsillar crypts.

Compared with enucleation, the effort to obliterate the crypts, one by one, has many disadvantages. It is painful and tedious, extending through many weeks, and the patient is liable to become discouraged and abandon treatment. Then too, we can not be certain that we have found all the crypts and a cure is not effected until every one is obliterated. The value of this procedure seems to be limited to those persons who are affected by hemophilia, in whom incisions even when slight are attended by danger.

Tonsillotomy, once so generally practiced, did undoubtedly relieve many of the obstructive symptoms, which caused the patient most distress; but it had many drawbacks. The segment of the gland remaining after amputation often became hypertrophied, protruded beyond the faucial pillars and brought back all the obstructive troubles, necessitating a second operation. Often the irritability of the fauces was but partially alleviated; the patient still had a "weak throat" and was still subject to recurrent attacks of acute inflammation.

Finally, as a means of preventing infection, tonsillotomy was a failure. Crypts still existed in the remaining segment and in the capsule, furnishing breeding grounds for many varieties of bacteria ever ready to migrate inward and to spread infection throughout the organism.

The deficiencies and defects of both the partial operations justify their abandonment in favor of enucleation, unless it is liable to equally adverse criticism. The opponents of the operation have emphasized the risks which it may involve. The first danger is violent inflammatory reaction with its serious constitutional sequels. It seems to me that such reaction is improbable. The tonsil is a small body weighing only a few grams and takes part in no vital physiological process. Why should its removal cause serious disturbance? Surgery is continually extirpating large organs of great functional importance and doing so with safety. Why should so much dread hover over tonsillectomy? It was my privilege to enucleate the largest pair of tonsils on record. Neither in this case, nor in scores of others that have come under my observation, has the reaction been alarming.

The second danger is hemorrhage. The tissues of the throat are very vascular and, when incised, bleed freely. The surgeon, who deals with these tissues, must have at hand the means, chemical, thermal, mechanical, for arresting such bleeding. He must know the conditions and be ready for prompt action. All this is only to say that he must be fitted for his work. To the man so fitted, the bleeding caused by enucleation will not present any insuperable difficulty.[3]

A third danger is deformity due to injury of the velum palati. If part of this be excised, contractile scar-tissue may be formed, leaving the patient with a puckered, crippled throat. The obvious reply to this objection is that the velum palati must not be injured. The sequels of such a blunder are an impeachment not of the operation, but of the operator. Wounds due to trembling hands or slippery knives should be carefully treated and every effort made to prevent cicatricial deformities; but such accidental wounds are no part of the operation advocated.

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[3] Some foreign authors report fatalities due to cutting the internal carotid artery during enucleation. Without more details than are given in the reports, it is hard to understand how such a lamentable mistake could have been made. This artery, when normally located, is distant 6 or 7 mm. from the tonsillar capsule, a space giving ample room for the dissection required. If it be true, as alleged, that the artery is sometimes in contact with the capsule, the anomaly would be clearly indicated by the strong pulsation of the vessel readily felt at the base of the faucial pillars. To attempt enucleation in such a case would certainly be reprehensible.

Tonsillectomy encounters a final objection, due to the notion that the patient will sooner or later suffer harm by the abolition of the physiological function performed by the extirpated organs. But what is the function of the tonsils? no one knows. Have they any function? Those that reply in the affirmative base their answer solely on the idea that the existence of an organ implies a function. This is a theory. It may be that the tonsil has a prenatal function; it may be that it comes under the category of anatomical survivals. These again are theories and it is wise for surgery to adhere closely to facts. The fact is that we have no proof of injurious consequences after well-performed tonsillectomy. A long service in one of the large Philadelphia hospitals has failed to bring such bad results under my notice; nor have I seen them in private practice.

As far as our present knowledge goes, there is no useful function performed by the tonsil and, even if some function shall in future be discovered, we need not regret our work, for functional activity pertains to normal organs and could not exist in such bodies as are the usual subjects of enucleation. They are hypertrophied, engorged, indurated, germ-infested, so damaged by disease as to be no better than lumps of morbid tissue. Such masses are good for nothing; bad for everything, and the sooner they are removed the better.

The following cases taken from my records illustrate the unsatisfactory results of those operations which stop short of the entire removal of diseased tonsils. They could be multiplied many times.

1. Miss E. J., professional nurse, had suffered from recurrent attacks of tonsillitis from childhood. During the past eighteen months repeated incisions had been made at intervals to destroy the crypts, the treatment being as continuous as her professional engagements would permit. In September, 1909, she had an attack of follicular tonsillitis, which confined her to bed for five days. On October 8, 1909, I enucleated both tonsils under local anesthesia. Recovery was perfect and up to November 15, 1912 (date of latest report), she had no recurrence of throat trouble.

2. Mr. A. T. S., aged thirty years, private secretary, had peritonsillar abscess, April 5, 1910. Nearly every winter for a series of years there had been from one to three attacks. His tonsils had been "removed" by a specialist, who promised him future immunity, but segments of the glands remained and the trouble returned. On April 25, 1910, I enucleated both tonsils under local anesthesia. He wrote to me, under date of November 8, 1912, that since the last operation his throat had given him no concern.

3. D. B., a girl aged eight years, had enlarged tonsils partially removed two years before to relieve repeated attacks of sore throat. The surgeon that operated promised immunity from future attacks and explained that he "did not believe in total removal of the glands because they might have some function." The child was brought to me because her sore throat had returned. On September 10, 1911, I performed double enucleation. Since then there has been no recurrence of any throat trouble and the girl has grown rapidly in health and strength.

The foregoing facts and arguments establish the claim that tonsillectomy is the best operation to accomplish the purposes we have in view and its advantages should be made available throughout the country to that large number of persons who suffer with chronic disease of the throat. Advances in surgery are quickly popularized in cities, which are medical centers and where there is an abundance of knowledge and skill ready to be utilized; but there are localities very differently circumstanced, neighborhoods in which the more recent surgical procedures are but little known and quite unused. In such localities many persons afflicted with remediable diseases continue to suffer for years, receiving only palliative treatment, or no treatment at all, and quite ignorant of the fact that a radical cure awaits them within easy reach and under conditions with which they could readily comply.

Such persons should be brought into touch with specialized skill by disseminating information concerning the present state of our art among the family physicians, who are the medical advisers of nine tenths of the people. This information must be supplied in a form adapted to the needs of the general practitioner and so expressed as to engage his interest and win his confidence.

THE BATTLE FOR HEALTH.

The State Department of Health, under the vigilant direction of Dr. Samuel G. Dixon, commissioner, continues to give Pennsylvania an enviable standing. It was only in 1906 that the system of securing complete records was established, and in the six years since there has been consistently sustained progress in the battle for health. For some time Commissioner Dixon's department has been referred to by national authorities and in other states as a model of efficiency, and its work is supplemented by a number of exceptionally well conducted municipal bureaus throughout the commonwealth—so that the consolidated results are notably gratifying.

The death rate of the state in 1906 was 16 per 1000, whereas for 1912 it was but 14. The old rate would have carried off 15,938 more persons than died in 1912. Tuberculosis in 1906 had a rate of 158.9 to the 100,000, but last year this was reduced to 123.7. Typhoid last year claimed but 16.5 to the 100,000, as against 54.8 in 1906. Diphtheria has been reduced in six years from 34.1 per 100,000 to 24.9, scarlet fever from 8.1 to 7, measles from 20.5 to 10.8, and whooping cough from 21.7 to 10.8. It will be observed that typhoid deaths have been reduced 67 per cent. in six years, while great headway has been obtained against the preventable maladies mentioned.

Commissioner Dixon explains that the work has just been started and that still better returns will be realized when municipalities have provided themselves with pure water supplies and the sewage problem is more adequately handled. It is the fashion to rail at the expense of health departments, but people do not stop to count the gain in lives saved, what these mean in money and conditions, and they forget that, as Dr. Dixon says, "the saving of anguish is beyond computation." The sort of reform being achieved by the state, in coöperation with local officials, is not at all a fad, but of the most practical nature, meant for the conservation of health and human life and not to demonstrate the value of any particular school or the utility of any peculiar science. Dr. Dixon is a man of dynamic force and wonderful capacity, giving his services to Pennsylvania and a great cause at a sacrifice to his own comfort and purse, which is patriotism in its most admirable form of devotion and expression.—*Pittsburgh Gazette Times.*

THE ESSENTIAL CAUSE OF PROSTITUTION.

In the various investigations, conducted from time to time with the end of getting at the root of the social evil, there seems to be for the most part a tendency to overlook the fact that practically all prostitutes are essentially different from normal women. In the limelight of investigations and under the influence of publicity the naturally vain and shallow-minded women who follow this profession as a livelihood are usually made to appear the victims of economic pressure which forces them into such a life in order to prevent their starvation. Practically all students of the subject, who are in reality students, that is, those who have made the subject their life work, rather than the hobby of a few days or weeks, are agreed that economic pressure is one of the least of the contributing factors to the evil.

We are inclined to the belief that a campaign of education of the young men, which includes not only the inculcation of the principle that continence is compatible with health, but also that the practice of frequenting places of prostitution betokens a low grade of mentality, coupled with a eugenistic movement to eliminate the feeble-minded strains from which prostitutes are almost universally recruited, offers the most practical plan of getting rid of the evil. Before this plan of action is condemned off-hand as visionary and impossible, it would be well to remember that up to the present moment no plan ever yet devised has succeeded in the abatement of the evil by one jot or tittle. From time immemorial nations have suffered the nuisance without being able to cope successfully with it. If all the old plans have failed, why should we not avail ourselves of the knowledge which the comparatively new science of eugenics has taught us and tackle the problem in the light of the fact that practically all prostitutes are mentally below par?—*Medical Record.*

THE NEW OWEN BILL.

Senator Owen has introduced a revised bill providing for a national Department of Health; the text of this Senate Bill No. 1 appears in this issue. In discussing the tie vote by which the Senate of the Sixty-Second Congress declined to consider the Owen bill at that time, *The Journal* stated that it was generally understood that Senator Owen would redraft and modify his bill and would introduce it at the next session of Congress. The hope was also expressed that the new bill would go back to the original plan and provide for a Department of Health with a secretary in the cabinet. The new bill follows the general plan of organization provided in the former bill, but creates a Department of Health and provides for a Secretary of Health. The present bill is by far the best measure which has yet been presented on this subject. It contains all of the strong points of preceding bills without any of the objections to which previous bills were subject. The return to a plan for a Department of Health is commendable. In the United States Public Health Service we already have a strong, efficient and rapidly developing bureau. In order to justify itself to the friends of advanced health legislation, any proposed change must provide for something larger, better and stronger than the existing health machinery. The movement for a department has gained strength enormously during the past three years. The opposition to it has crystallized in a constantly diminishing group of objectors, while public support for such a measure has been growing as its object and purposes have been better understood. The silly objections which were at first raised against the measure have been completely met. The establishment of a national Department of Health will not and can not create a "medical trust." It can not interfere with the rights of any citizen or with the authority of any state. It can not have anything to do with the individual treatment of disease or with the administration of drugs. These facts have been proved repeatedly to the satisfaction of all those who really wish to know the truth. The only objectors left are those who are too ignorant to be able to understand, too fanatical to desire to understand or too mercenary to care for anything except the possibility of interference with their private gains. The educational value of the efforts that have been made in the past are well worth the cost. The prospects for the passage of Senator Owen's bill are more favorable now than ever before.—*Jour. A. M. A.*, April 26, 1913.

PHILADELPHIA SESSION.

NOTES.

The headquarters for the meeting of the state society in Philadelphia next September will be at the Bellevue-Stratford. The Commercial Exhibit will be held in Horticultural Hall a half square away on Broad Street. In connection with the Commercial Exhibit there will be a Scientific and Pathological Exhibition.

The Scientific Exhibit will contain some new features this year. There will be the usual display of gross morbid specimens, in which the diseases of individual organs will be grouped together. Each day at the noon hour between the meetings of the sections, there will be demonstrations by experts of laboratory tests. There will also be a very complete illuminated display of x-ray pictures. Tuesday, Wednesday and Thursday afternoons after the sections have adjourned, there will be a display of the newest moving pictures in medicine in Horticultural Hall.

These pictures include the isolated heart in its normal action and under the influence of chloroform and adrenalin; the living spirochete of syphilis and of relapsing fever shown moving in the blood current; the heart action of the chick embryo; the circulation of the blood in the tail of the newt, etc. These are the most fascinating moving pictures ever shown.

On Tuesday night Dr. Weisenburg will give an exhibition of moving pictures, illustrating a series of new cases of nervous diseases. These are different from the ones shown in Scranton last year. That same night, Dr. Pfahler will show serial radiographs of abdominal conditions.

Thursday night will be devoted to the hospital and dispensary abuse. Dr. Farrar, who has made a study of this subject for the Philadelphia County Society will read the paper from the practicing physicians' standpoint.

On Friday night, there will be a popular lecture open to laymen.

The programs for the section meetings give promise of being more interesting and practical than ever before. With the clinics starting on Monday morning at 9 o'clock and continuing all day, and beginning again on Friday and continuing all day, and the usual routine clinics of the hospital on Saturday morning, we hope that the week will be so filled with practical medicine showing the newest operations and medical technic that the visiting members of the state society will be more than satisfied.

In surgery, Drs. Babcock, Martin, Gibbon, Rodman, Laplace, Frazier, Hammond, Krusen and others will give clinics in their hospitals. In medicine, Drs. Anders, Hare, Daland, Stengel and other leaders will give clinics. There will be clinics in the specialties by Drs. Risley, deSchweinitz, Randall and others. While the clinics are being given, there will be demonstrations in the laboratories of the hospitals of the various newer methods of technic. The program of these clinics was given in the Journal for April.

ADDITIONAL CLINICS AT PHILADELPHIA SESSION.

(See Journal, April, 1913, page 580.)

Philadelphia General Hospital.

MONDAY AND FRIDAY.

John Cooke Hirst, Abdominal operation for pelvic disease in women; plastic operations including the operative and palliative treatment of prolapse of the uterus; the use of the metranoikter in the treatment of sterility; the management of complicated labor cases.

West Philadelphia Hospital for Women.

MONDAY.

Lida Stewart-Cogill, A series of obstetrical cases with existing dystosia treated according to cause; abdominal and vaginal surgery.
M. Louise Diez, Gynecological operations.
Jacobina Reddie, Tonsillectomy and adenectomy; resection of the nasal septum.

FRIDAY.

Elizabeth L. Peck, Pelvic surgery.
Sarah H. Lockrey, Abdominal surgery.
Mary Getty, Ophthalmology.

MEDICAL INSPECTION OF SCHOOLS.

Visiting physicians are invited by the Board of Education and Department of Public Health and Charities to inspect the records, blank forms, other stationery, chart exhibits, etc., at the Central Office, 729 City Hall; routine medical inspection in the schools; special open-air classes and classes for backward and truant children, conducted by the Board of Education; also the Municipal Eye and Dental Dispensaries for school children at the City Hall. Physicians, desirous of individual observation or instruction in the work of medical inspection and signifying this desire, will be assigned to inspectors, singly or in small groups at schools rather than the ones mentioned below.

I. CLINICAL MEDICAL INSPECTION.

A. Physical Examination of Children as Performed during Routine Medical Inspection. This includes examination for defects of the eyes, nose and throat, ears, teeth, nutrition, nervous system, heart, and skin, together with the keeping of proper records and the issuance of parent's notices. The following schools are recommended for visitation as they are located in the foreign section of the City and consequently show very well the work of the medical inspector and the school nurse: McCall School, Sixth and DeLancey Sts.; Durham School, Sixteenth and Lombard Sts.; Hawthorne School, Eleventh and Fitzwater Sts.; Wilson School, Twelfth and Wharton Sts.; Southwark School, Eighth and Mifflin Sts.

B. Municipal Eye Dispensary at 708 City Hall. Here some twenty-five hundred poor children suffering from eyestrain are examined and receive eyeglasses by prescription free of charge. The dispensary is open at 2 P.M. daily.

C. Municipal Dental Dispensary at 706 City Hall, branch dispensaries in the Southwark Public School, Eighth and Mifflin Sts.; the Thomas May Pierce Public School, Twenty-third and Cambria Sts.; and the William B. Hanna Public School, Fifty-eighth and Media Sts. Here every effort is being made to save the permanent teeth of the children, especially the first permanent molars and to secure cleanly conditions in the months of children suffering from caries of the temporary teeth. These clinics are in operation and the actual dental work and class records will be exhibited.

D. Special Classes for Backward and Disciplinary Cases in the Public Schools. Philadelphia has about ninety such classes designed for backward, for feeble-minded and for truant children. Classes of each type may be visited. Those interested in the medical aspect of this subject should apply to the director of school medical inspection, Dr. Walter S. Cornell, 729 City Hall; those interested in the educational and administrative aspect should apply to Dr. Oliver P. Cornman, associate superintendent of schools, Stock Exchange Building.

E. Special Open-Air Classes for Poorly Nourished Children. These exist at the Wilson School, Twelfth and Federal Sts., the McCall Annex (Binney) School, Sixth and Spruce Sts., and the Lighthouse Social Service Building at Front St. and Lehigh Ave. The Board of Education maintains these classes, furnishing warm clothing and absolute ventilation, but not furnishing food.

F. Special Open-Window Classes Designed for Ordinary Children, an Experiment in Education under Absolutely Hygienic Conditions, at the Bache School, Twenty-third and Brown Sts.

LIST OF SPECIAL CLASSES MAINTAINED BY THE BOARD OF EDUCATION, PHILADELPHIA.

School: Location	Principal	Type and Number of Classes.
Durham 16th & Lombard	J.R.P.Brock	1 Backward 1 Disciplinary (Colored)
McCall 7th & Spruce	W. H. Welsh	3 Backward 3 Disciplinary 1 Open-Air (Russian)
Wyoming 6th & Fairmount	H. G. Deininger	4 Backward
Hawthorne 12th & Fitzwater	C. B. Arnold	2 Backward (Italian & Colored)
Wilson 12th & Wharton	V. W. Daltry	1 Backward 3 Disciplinary 1 Open-Air (Italian)
Potter 4th & Clearfield	Geo. W. Rieger	2 Disciplinary 1 Open-Air (Russian)

II. CLINICAL. MENTAL DEFICIENCY.

A. Clinics Conducted by the Division of Medical Inspection for the Examination of Mentally Deficient Children. These clinics are being established as this program goes to press and consequently detailed information can not be given here. Apply at the office of the Director of Medical Inspection of Public Schools, 729 City Hall. At these clinics will be shown mentally deficient children and the methods of diagnosis. The Binet mental tests will be demonstrated.

B. Special Classes for Deficient Children in the Public Schools. Philadelphia has about seventy classes designed for backward, for feeble-minded, and for truant children. Classes of each type may be visited. For guidance apply at the office of the director of medical inspection, 729 City Hall.

C. Visit to the Training School for Feeble-minded Children at Vineland, N. J. This well-known institution conducts a research department, medical department, and an educational department, and gives a six weeks' course (July 1) to school teachers, and a ten days' course (September 1) to physicians. Vineland is thirty-four miles from Philadelphia on the electric road to Atlantic City and very accessible.

III. CHARTS EXHIBITS. GENERAL CHART EXHIBITS SHOWING.

A. Administration of Medical Inspection with Office Records Bearing on Contagious Diseases, Physical Defects and Sanitation, at the office of school medical inspection, 729 City Hall.

B. Efficiency of Medical Inspection. Economic studies showing the influence of race, color, nativity, social grade, and also showing the influence of the school nurses in the work of correction of physical defects. Similar studies on school time lost because of minor contagious diseases.

C. Investigations on the Spread of Scarlet Fever and Diphtheria and the Effect of Medical Inspection in Checking Such Epidemics. Studies of the physical condition of children in the special open-air classes.

D. Picture Exhibit Showing the Common Physical Defects of Children.

IV. INSPECTION OF SANITARY APPARATUS IN MODERN SCHOOL BUILDINGS, ESPECIALLY METHODS OF VENTILATION, HUMIDIFICATION OF THE AIR, AND DRAINAGE.

The following buildings are recommended for inspection: William Penn High School, Fifteenth and Mt. Vernon Sts.; West Philadelphia High School, Forty-seventh and Spruce Sts.; Hawthorne Elementary School Eleventh and Fitzwater Sts.; Birney Elementary School, Ninth St. and Lindley Ave. In all these buildings the ventilation is modern with humidification of the air.

At the West Philadelphia High School is a special feature.

The Hawthorne is one of twenty or thirty modern schools of practically the same type erected by the Board of Education in recent years.

The Birney was completed in the spring of 1913 and has exceptional toilet facilities for the pupils.

PHILADELPHIA. REPORT OF DIVISION OF MEDICAL INSPECTION OF PUBLIC SCHOOLS, 1912; GENERAL SUMMARY.

Number of pupils in elementary schools, 175,905.
Number of pupils in high schools, 11,502 (Medical inspection in high schools instituted in latter part of year only).
Number of School Buildings, 280 (Main building with annex on same lot classified as one school).
Visit made by supervisors, 1355 (April 1 to December 31).
Visits made by assistant inspectors, 35,556.
Pupils sent to inspectors by teachers, 98,171.
Routine physical examinations, 111,854.
Special examinations, 317,564 (Rapid examinations, mostly by classes).
Total number of physical defects recommended for treatment, 138,092.
Proportion of physical defects corrected consequent to recommendations, .45.
Number of exclusions from school, 7046.
Time lost from school by reason of exclusions (Minor contagious diseases only, in days), 4314.
Number of throat cultures taken, 2722; with positive results, 418.
Vaccinations performed, 2312.
Number of schools disinfected, 335.
Number of sanitary defects reported to Board of Education, 250.
Children seen at special clinic for mentally deficient children, 188.
Children placed in open-air classes, 129.
Children visited at their homes at request of Bureau of Compulsory Education, 150.
School janitors (Applicants physically examined), 32.
High school students (Competitors in athletic games specially examined), 95.
Certification to Board of Education concerning exclusions by Bureau of Health of school teachers, 12.
Exhibits on medical inspection, 3.
Special work done by assistant medical inspectors. Occasions employing most of the inspectors, 12.
Special investigations in the work of medical inspection. (a) Economic, 2; (b) Clinical, 3; (c) Sanitary, 2.

Medical inspection of public schools in Philadelphia is conducted according to the provisions of the School Code of Pennsylvania; namely conduct of the work by the Department of Public Health and Charities (if it so desires) with expense maintenance by the Board of Education. The corps of school nurses is entirely under the Board of Education but because of the necessity of close coöperation with the inspectors it receives professional instructions from the director of medical inspection. One of the associate superintendents has been delegated by the superintendent of schools to take charge of matters relating to medical inspection in the schools as it affects the school authorities.

The working force consists of a director of medical inspection ($3000), five supervisors ($1500), 58 inspectors ($600), one head nurse ($1000),one assistant head nurse ($900),twenty-two assistant nurses ($750). The assistant inspectors give the three morning school hours each day to the work, a total of two hundred school days at three hours each. The supervisors give their mornings and certain time in the afternoon. The director gives such time as is necessary to carry on the work.

The office clerical assistants, stationery, and miscellaneous material are supplied by the Board of Education. The Bureau of Health furnishes vaccine virus.

The assignment of inspectors on this basis gives one inspector for three thousand two hundred school population and one nurse per three thousand school population. The nurses, however, are sufficient in number only to cover one hundred seven of the three hundred schools of the city. These are schools in the poorer districts. The Budget (approximately $69,000) shows expenditures of thirty-eight cents per annum per child.

A summary of the activities for 1912 is here given. They represent nine school months, —the present Division of School Medical Inspection having been reorganized February 1, 1912.

The Pennsylvania Medical Journal.
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Official Organ of the Medical Society of the State of Pennsylvania.

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Lackawanna—Harry W Albertson, M. D., Scranton.
Lancaster—Walter D. Blankenship, M. D., Lancaste
Lawrence—W. A. Womer, M. D., New Castle.
Lebanon—George R. Pretz, M. D., Lebanon.
Lehigh—William A. Hausman, Jr., M, D., Allentown.
Luzerne—Herbert B. Gibby, M. D., Wilkes-Barre.
Lycoming—Wesley F. Kunkle, M. D., Williamsport.
McKean—James Johnston, M. D., Bradford.
Mercer—Patrick E. Biggins, M. D., Sharpsville.
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Somerset—H. C. McKinley, M. D., Meyersdale.
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Tioga—M. Berry Lougwell, M. D., Wellsboro.
Union—Oliver W. H. Glover, M. D., Laurelton.
Venango—J. Irwin Zerbe, M. D., Franklin.
Warren—Charles W. Schmehl, M. D., Warren.
Washington—Joseph W. Hunter, M. D., Charleroi.
Wayne—Frederick A. Lobb, M. D., Hawley.
Westmoreland—James P. Strickler, M D., Scottdale.
Wyoming—Herbert L. McKown, M. D., Tunkhannock.
York—Julius H Comroe, M. D., York.

All communications should be addressed to the Pennsylvania Medical Journal, Athens, Pa.

The Medical Society of the State of Pennsylvania does not assume responsibility for any statements or opinions published in this Journal.

Athens, June, 1913.

UNIFORMITY IN COMPOUNDING.

The persistent employment of proprietary preparations by many practitioners of this state, as well as of other states, may be explained upon diverse grounds. One of the many reasons that such preparations are so generally employed, to which but little attention is paid, is the uniformity of these mixtures in color, appearance, taste and smell. Once the preparation is prescribed, the physician is always sure that the patient will get a compound similar to the one originally ordered, and that there will be no changes, at least grossly, in the preparation, no matter where or when purchased. Although in no way condoning or extenuating the use of such preparations, this is a very decided advantage in therapeusis. The various formulas in the Pharmacopeia and National Formulary are made up by different pharmacists in a variety of ways so that the same prescriptions compounded by a different pharmacist, or by the original pharmacist at a different time, may be radically changed in appearance when dispensed the second time. The effect of such changes upon patients is obvious and consequently they frequently lose faith in the medicine, a very potent aid in therapeusis, thinking that the physician's orders have not been followed out or mistakes have been made by the druggist.

In the approaching version of the Pharmacopeia, in view of this fact, a decided effort should be made accurately to standardize, not only the dosage of the various mixtures and preparations, but also their gross appearance, so that when a physician orders as a vehicle a simple preparation, as the compound tincture of cardamom, he will get the same thing everywhere, and when he prescribes the official elixir of iron, quinin and strychnin, he will know that, no matter where or when purchased by the patient, the mixture will be uniform in its gross characteristics, not a greenish sour solution in one place, a yellow acrid mixture in another, or an almost whitish, colorless and tasteless compound in the third place. J. H. M.

THE PENNSYLVANIA STATE DEPARTMENT OF HEALTH.

On another page of this issue will be found an editorial taken from the *Pittsburgh Gazette Times* on June 11, having for its subject the results accomplished by the State Department of Health under the jurisdiction of Dr. Samuel G. Dixon, commissioner of health. It is so rare that the lay press appreciates what the medical profession and the state health authorities are doing in their efforts to subjugate disease, and so improve the general hygienic and sanitary conditions as to materially lengthen the average span of human life, that we can not allow this opportunity to pass without expressing the gratification which it creates. Every citizen of this commonwealth should be proud of the position which it occupies among the states with regard to its sanitary supervision and the recording of its vital statistics. The free distribution of curative sera to the indigent, the sanitary inspection of the school houses and the medical inspection of the pupils, together with the medical care and educational advantages offered to those afflicted with tuberculosis, through the many state dispensaries and sanatoriums, are strong features of the Department of Health, that unquestionably make for health and longevity. As to the Department of Vital Statistics its efficiency is amply shown, as is indicated in the above named editorial, by the approval which its work has received from the national authorities at Washington. S.

PUBLIC HEALTH AND THE COMMON LAW.

Two distinct crimes stood out in the enactments of England: The felony of breaking quarantine, or endangering public health by exposure of sick people with the ulcers of the plague on them, and the misdemeanor (Blackstone) of the sale of unwholesome provisions. This, occurring at the signal close of the second period of English juridical development, discovers a threefold intent, namely care of wine which must not be corrupted, avoidance of contagious or unwholesome flesh or any meat bought of a Jew. This watchguard over transmissible disease and purity of food contains the essential elements of modern hygiene so far as they were appreciable in days lacking our detailed knowledge. Blackstone ingeniously praises God that for a hundred years the use of quarantine had lapsed because no plague existed. Alas! he did not realize the plaguy diseases rioting through fair England then worse than that one dreaded scourge of which he knew.

To cause a fetal death was not murder but a great misprision according to Blackstone. The laws regarding marriage clandestine or forced marriage, rape and violation seem chiefly concerned with the aspect of its effect on inheritance, the regulations of mortmain and the clerical doctrine of uses indicating the primary importance of property over the effects on health, aside from life.

Eugenics, therefore, does not find derivation in these marriage enactments. A law of Edward III. forbid more than two courses at dinner, except on festal occasions. Other hygienic (?) laws related to sumptuary legislation included matters of game and hunting, not the basis of prevention of cruelty to animals, however. The public health was firmly guarded as to prostitutes, brothels, inns and houses of ill-fame.

Such an excellent body of law should interest in detail the thinking physician to-day, who may well peruse Bracton, Blackstone and Coke, as well as the original parliamentary enactments. T. H. E.

A PARADOX IN AUTHORSHIP.

Quiet, uninterrupted time and tranquil concentration of thought are as important to the medical author as to the novelist, poet or dramatist, and yet the men who have these things are not welcomed in the field of medical literature. The publishers and the profession prefer the writings of overworked men, whose time is crowded by teaching, hospital service and private practice. Glance at that sentence which follows the author's name on the title page of nearly every medical book, serving as his introduction to the reader. Nothing is said of his literary opportunities; there is scant mention of his previous works; but there is an array of the hospitals upon whose staff he serves and the colleges and schools in which he holds a professorship.

This paradox of preferring the work of the man, who has not the time to do it, is a tribute to the supreme value of experience, a recognition of the preëminent claim of instruction founded upon clinical work; but it has one serious drawback. The overworked doctor, harassed by continual interruptions, presents his opinions and narrates his experiences in a form that is generally crude; often inaccurate and obscure.

Sixty years ago, George B. Wood and some of his contemporaries sent forth medical books that ranked with the classics of our language. They were models of clear, logical, forcible expression. Few indeed among recent works can compare with them in style, and yet good, strong, harmonious English is as much prized to-day as ever. The few medical authors who, in spite of every hindrance, have attained literary excellence find it one of their most valuable assets. No other one thing so much contributed to the phenomenal success of Sir William Osler as his peculiarly attractive style. It made him a popular author long before he became a recognized authority. It is surely most desirable that our literature should regain the high place it once held in the judgment of men of culture. J. W. W.

CHANGES IN MEMBERSHIP OF COUNTY SOCIETIES.

The following reports have been received since the May Journal was printed:—

Allegheny County: *New Members*—Henry De La Cossitt, Homestead; Norman R. Graham, Sharpsburg; Charles K. Shanor, Sewickley; J. Conrad Lemmer, Wilkinsburg (by transfer from Venango Co.). *Deaths*—Wilson John Rugh (Columbus Med. Coll., '77) in Pittsburgh, May 10, aged 64. John R. Tilbrook (Univ. of Pittsburgh, '01) in Pitcairn, June 3, aged 40. *No Longer Members*—Robert Butz, Charles C. Moyar, Harry T. O'Connor. *Removals*—E. Harris Parkin from Pittsburgh to New Kensington (Westmoreland Co.); Henri Schmid from Pittsburgh to Coraopolis.

Armstrong County: *Removal*—Sharon P. Heilman from Phoenix, Arizona, to 265 North McKean St., Kittanning.

Beaver County: *New Member*—Charles B. Forcey, Ambridge (by transfer from Northumberland Co.). *Death*—James K. White (Univ. of Louisville, '77) in New Brighton, May 10, from apoplexy, aged 63.

Bedford County: *Removal*—Maurice V. Brant from Buffalo Mills to Stoyestown (Somerset Co.).

Bradford County: *New Member*—George William Hawk, Sayre.

Bucks County: *New Member*—Edwin S. Huntsman, Hulmeville. *Transfer*—William Hannum to Philadelphia County Society.

Chester County: *New Members*—Fred L.

Baker, Atglen; William Brower, Spring City. *No Longer a Member*—James B. Shively.

Fayette County: *New Member*—Edward Wark Douglas, Brownsville. *Removal*—Samuel E. Hibbs from Fairchance to Uniontown.

Lackawanna County: *Removal*—Frederick E. Morris from Glens Falls, N. Y., to Red Cross Hospital, Atlanta, Ga.

Lancaster County: *New Member*—Harry Gilmore Hassenplug, Lancaster. *Removal*—George L. Cassel, from Lancaster to Marietta.

Lehigh County: *New Members*—Howard B. Erdman, Macungie; Thomas B. Kern, Slatington.

Luzerne County: *New Members*—James J. Dougherty, James P. Inslee, W. A. Smythe, Avoca; Morgan E. Griffith, John A. Kenny, Wilkes-Barre; Charles E. Moore, Alden Station.

Mercer County: *New Members*—Joseph A. Doyle, John H. Martin, Greenville; Eugene Hamborszky, Farrell.

Montgomery County: *New Member*—Samuel Goldberg, Norristown.

Northampton County: *New Members*—Harry F. Leibert, South Bethlehem; Harry E. McCormick, Louis J. Villochi, Easton. *Death*—David Engleman (Jefferson Med. Coll., '64) in Easton, May 14, aged 77.

Northumberland County: *Transfer*—Charles B. Forcey to Beaver County Society.

Philadelphia County: *New Members*—Arthur M. Adams, Maurice Brown, Ella M. Gerlach, William Hannum (by transfer from Bucks Co.), Harry J. Hartz, Edmund N. Lippincott, Samuel Moss, Gisela von Poswik, Philadelphia; John J. Mullowney, Harrisburg (Dauphin Co.). *Deaths*—Elmer E. Brown (Jefferson Med. Coll., '97) in Philadelphia, May 23, aged 53; Louis Adolphus Duhring (Univ. of Pennsylvania, '67) May 7, aged 67. *No Longer Members*—William W. Fox (transferred to New Jersey Society); Charles P. Noble (resigned). *Removals*—Mary E. Allen from Calhoun, Alabama, to 4050 Sansom St., Philadelphia; George O. Jarvis from Philadelphia to Ashland, Oregon; William P. Roberts from Philadelphia to 2189 Clarendon Rd., Brooklyn, N. Y.

Schuylkill County: *New Member*—W. G. Jones, Tamaqua.

Venango County: *Transfer*—J. Conrad Lemmer to Allegheny County Society.

Washington County: *Removal*—Joseph B. Irwin from Washington to Florence.

Wayne County: *New Members*—A. A. Berlin, Newfoundland; R. W. McCafferty, Waymart.

Westmoreland County: *New Members*—John Louis Marchand, Irwin; John W. Wenzel, Donegal.

York County: *New Member*—Robert N. Meisenhelter, Hanover. *No Longer a Member*—Joseph S. Miller, York.

Present membership 6062. S.

STATE NEWS ITEMS.

MARRIED.

Dr. John A. Huth, Natrona, and Miss Olive Mary Brown, Tarentum, June 4.

Dr. Joseph Samuel Cohen, Philadelphia, and Miss Dorothy Shaffer, Allentown, May 6.

Dr. Walter F. Donaldson, and Miss Nan Swearingen, both of Pittsburgh, June 12.

Dr. James Paul Austin, and Miss Margaret L. Thomas, both of Philadelphia, April 26.

Dr. William Charles Troxell, Allentown, and Miss Lillian F. Schuler, East Texas, May 8.

Dr. Francis Marion Schilling and Miss Lydia Lever, both of Philadelphia, June 4.

Dr. Frederick Blunt Allen, North Wales, and Miss Florence Corbin Newbold, Ridgefield, N. J., June 4.

Dr. Elizabeth C. Spencer, Norristown, and Mr. William E. McCall, Jr., Philadelphia, in Naugatuck, Conn., June 7.

DIED.

Dr. William Henry Meredith (Jefferson Med. Coll., '70) in Quakertown, May 7, aged 70.

Dr. John W. Covert (Cleveland Univ. of Med. and Surg., '79) in New Castle, May 18, aged 75.

Dr. Annie M. Hawley (Hahnemann Med. Coll. and Hosp., Chicago, '73) in Pughtown, May 11.

Dr. R. Durant Morford (Western Reserve Univ., Cleveland, '82) in McKeesport, May 7, aged 58.

Dr. Israel C. Barlott (Long Island Coll. Hosp., Brooklyn, '72) of Hooversville, in Johnstown, May 15.

Dr. John Adam Conrad (Long Island Coll. Hosp., Brooklyn, '67) in Robesonia, May 14, from heart disease, aged 70.

Dr. James H. McLaughlin (Jefferson Med. Coll., '64) (Cincinnati Coll. of Med. and Surg., '73) in Braddock, March 13, from heart disease, aged 60.

Dr. Benjamin H. Barr (Homeopathic Med. Coll. of Pennsylvania, Philadelphia, '55) of Philadelphia, in Burlington, N. J., May 5, from senile debility, aged 85.

ITEMS.

Dr. W. W. Keen is taking a trip around the world.

Dr. Percival J. Eaton, Pittsburgh, on May 24, was elected president of the Associated Harvard Clubs.

Dr. Nathaniel Ross, Wilkes-Barre, has been elected Grand Commander of the Knights of Malta of Pennsylvania.

Stevens Heckshcr, Esq., has presented to the University of Pennsylvania $10,000 to establish a fellowship in Research Medicine.

The Presbyterian Hospital, Philadelphia, is bequeathed $5000 by the will of the late Samuel Teller Benner for the endowment of a free bed.

The Jefferson Medical College has purchased the old Phipps Institute, which will be remodeled and used as a ward for the treatment of tuberculosis.

Dr. Luba Robin Goldsmith was recently elected president of the Woman's Medical Society of Pittsburgh, and Dr. Laura Schrom, vice-president.

Dr. Phaon H. Harmany, Mahanoy City, on the completion of fifty years in practice was presented, May 10, by his associates, with a silver loving cup.

The Philadelphia Alumni Association of the Medical Department of the University of Pennsylvania held its annual outing on June 3, at Grenlock Park, N. J.

University of Pittsburgh. The forty-four members of the graduating class have all executed arrangements for hospital service during the coming year.

Antivaccination Bill Defeated. On May 28, the bill to amend the vaccination law so that vaccination should be required only in time of outbreaks of smallpox was defeated in the House.

Dr. R. B. Watson, Lock Haven, was tendered a banquet on May 7, by the Clinton County Medical Society, in celebration of his seventy-fifth birthday and his fiftieth anniversary as a practitioner.

Dr. John G. Clarke addressed the West Branch of the Philadelphia County Medical Society at its annual social meeting May 20, giving an illustrated lecture on the travels of the Surgical Clinical Society.

The Somerset County Medical Society will hold a picnic outing in Riverside Park, between Meyersdale and Garrett, on July 15. Dr. W. A. Nason, Roaring Spring, councilor for the district, and Dr. C. L. Stevens, state secretary, will be present.

Dr. Matthew Woods, in a recent communication to the *Philadelphia Ledger*, calls attention to the necessity of providing suitable occupation for epileptics and requiring an examination for all persons working about machinery, as chauffeurs, or in dangerous positions.

The Woman's Medical College held its sixty-first annual commencement in the Garrick Theater, June 4, when twenty-three young women from ten states and foreign countries received the degree of medicine. Dr. Joseph McFarland, professor of pathology, delivered the address to the graduates.

Portrait Given to Society. Franklin County Medical Society at its quarterly meeting, May 20, was presented with an oil painting of Dr. William Grubb, a member of the society who died in Greencastle in 1885. A quaintly lettered metal sign from the door of Dr. Grubb's office was also presented to the society.

Jefferson Medical College granted diplomas to 126 graduates at its eighty-eighth commencement, held in the Academy of Music, June 7. The degree of LL.D.was conferred upon Francis Preston Venable, president of the University of North Carolina, and Dr. Abraham Jacobi, president of the American Medical Association.

Dr. Duhring Wills $81,000 to University. The will of Dr. Louis A. Duhring, former professor of dermatology at the University of Pennsylvania, devises approximately $81,000 to the university and hospital connected with it. The income of $25,000 is to be used for the department of cutaneous medicine. A museum for the study of cutaneous disease is to be established. Should any of the income of this $25,000 trust fund be available for other purposes, lectures, prizes and scholarships are to be awarded and facilities for research work are to be given. The University Hospital is to receive $50,000 for the support of wards of free beds for the treatment of skin diseases and similar physical disorders. After the payment of other bequests the residue is to be given to the trustees of the University of Pennsylvania and to the College of Physicians to be distributed in a specified manner.

State Board Statistics for 1912. *The Journal of the American Medical Association* for May 24, 1913, gives elaborate tables prepared by the Council on Medical Education showing the results of state board examinations held in the United States during the year 1912. Unfortunately Pennsylvania was the only state from which complete reports were not received. The statistics therefore do not show the results of examinations held in Pennsylvania. The accompanying table shows the results of the examination in other states of graduates of Pennsylvania colleges.

The Council gives the following "Cautions in Forming Conclusions. In making comparisons on the basis of these statistics several factors should be carefully considered. The number examined is important since, if all other conditions are equal, the larger the number of graduates examined, the more accurate is the finding. But other conditions are seldom equal. The number of states in which a school's graduates have been examined is important. The larger this number the more accurate will be the conclusions. Again, the character of the board making the examination and the methods employed are important factors to be considered, since some boards hold very careful examinations and include practical laboratory and clinical tests, or they may mark the papers more severely, while others, especially partisan boards, may be very lenient. In this connection it should be stated that although conditions are undergoing a steady improvement it is still true that the character of the license examination as usually conducted at the present time is such that graduates of colleges conducted largely by quiz-class methods may easily be successful in passing them. Therefore, the statistics herewith presented should be taken only as part of any investigation of medical schools, although it is an important part."

PENNSYLVANIA GRADUATES EXAMINED BY STATE BOARDS (OUTSIDE OF PENNSYLVANIA) DURING 1912.

NAME OF COLLEGE.	Graduates of All Years.					Graduates of 1908-1912.					Graduates of 1907 and Previous.					Graduates of 1912.				
	Number Examined	Number Passed	Number Failed	Per Cent. Failed	Number of States.	Number Examined	Number Passed	Number Failed	Per Cent. Failed	Number of States.	Number Examined	Number Passed	Number Failed	Per Cent. Failed	Number of States.	Number Examined	Number Passed	Number Failed	Per Cent. Failed	Number of States.
Hahnemann Medical College and Hosp.	22	21	1	4.5	13	15	14	1	6.7	8	7	7	0	0.	6	6	6	0	0.	4
Jefferson Medical College	124	115	9	7.3	34	97	92	5	5.2	31	27	23	4	14.8	17	65	62	3	4.6	22
Medico-Chirurgical College of Philadelphia	40	34	6	15.0	18	32	28	4	12.5	14	8	6	2	25.0	5	20	17	3	15.0	7
Temple University, Medical Dept.	4	4	0	0.	2	4	4	0	0.	2	....	....	....	....	....	3	3	0	0.	1
University of Pennsylvania, Dept. of Med.	79	72	7	8.9	28	59	56	3	5.1	24	20	16	4	20.0	10	24	23	1	4.2	13
Univ. of Pittsburgh, School of Medicine	12	10	2	16.7	9	12	10	2	16.7	9	....	....	....	....	....	5	5	0	0.	2
Woman's Med. Coll. of Pennsylvania	38	30	8	21.1	21	31	24	7	22.6	17	7	6	1	14.3	6	13	10	3	23.1	7

GENERAL NEWS ITEMS.

The American Society for Physicians' Study Travels was granted a charter in Philadelphia, May 31.

Dr. C. A. L. Reed, Cincinnati, lectured before the West Virginia State Medical Association at Charleston, W. Va., May 21, his subject being "Marriage and Eugenics in Race Culture."

Correspondence Schools for Nurses. *The Journal of the A. M. A.* for May 31 has an editorial which closes as follows: "It is the duty of physicians to discourage those who contemplate taking a correspondence course in nursing. In the end women so taught will be a disappointment to themselves, an irritation to physicians and a danger to the public."

Medical Inspection in New York Public Schools. Governor Sulzer on May 24 signed the bill providing for medical inspection of pupils attending public schools in the state, such inspection to include the service of a trained and registered nurse, if a nurse be employed. The medical inspectors are to be employed by the board of education in each city and school district.

Council on Pharmacy and Chemistry. Since May 1 the following articles have been accepted for inclusion with New and Nonofficial Remedies: Luminal; sodium luminal; magnesium perhydrol; magnesium perhydrol, 25 per cent.; magnesium perhydrol, 25 per cent. tablets; cholera agglutinating serum; diphtheria bacterin; staphylococcic cultures; luminal tablets, 1½ grs.; luminal tablets, 5 grs.; luminal sodium; solution of amylene-chloral, 50 per cent.

Books for Dayton, Ohio, Physicians. The Medical Department of the Dayton Public Library, containing over 1600 new and standard medical books was totally destroyed by the flood, and some of the physicians lost their libraries. Persons wishing to donate medical books may address Dr. W. J. Conklin, 17 East First St., Dayton, Ohio, chairman of the Library Committee. In order to avoid duplication, first send titles, and wait for an answer before forwarding book.

More British Doctors. By a change in the by-laws of the Royal College of Physicians in London, made in December last, says *The British Medical Journal*, the number of persons entitled to use the title "Doctor" in Great Britain has been largely increased, although curiously enough, the number of qualified physicians remains precisely the same. Until this change all British physicians were not entitled to be called "Doctor." Only those who had received the doctorial degree from a university were so entitled. The Royal College gives diplomas to its graduates, but has no power to confer degrees.

Pensions for Members of the Rockefeller Institute. Three quarters pay pensions for members retiring at the age of sixty-five years after fifteen or more years of service, and pensions of from one half to three quarters of full pay, according to the length of service for members and associate members who retire at the age of sixty years, have been provided for by the governing boards of the Rockefeller Institute for Medical Research. There is also a provision for total disability after ten years of service and for widows and orphaned children, at one half the scale upon which members of the staff are pensioned.

Medical Intern, Government Hospital for the Insane. The U. S. Civil Service Commission announces an open competitive examination for medical intern, for both unmarried men and women, on July 2, 1913. From the register of eligibles resulting from this examination certification will be made to fill a vacancy in this position in the Government Hospital for the Insane, Washington, D. C., at $900 per annum, with maintenance, and vacancies as they may occur in positions requiring similar qualifications. Applicants must not have been graduated previous to the year 1908. Apply to the U. S. Civil Service Commission, Washington, D. C., for application and examination Form 1312.

College of Surgeons. An American College of Surgeons was organized in Washington, May 5, 1913. Four hundred and fifty surgeons of North America came together at the invitation of an Organization Committee, appointed by the Clinical Congress of Surgeons of North America at its meeting in November, 1912. This committee consisted of Drs. Edward Martin, Philadelphia; Emmet Rixford, San Francisco; John B. Murphy, Chicago; Rudolph Matas, New Orleans; Albert J. Ochsner, Chicago; Charles H. Mayo, Rochester; Frederic J. Cotton, Boston; George Emerson Brewer, New York; J. M. T. Finney, Baltimore; W. W. Chipman, Montreal; George W. Crile, Cleveland, and Franklin H. Martin, Chicago. Of the five hundred men invited, four hundred and fifty, representing all branches of surgery and surgical specialties, responded and were designated the Founders of the College.

The men were called together by Dr. Edward Martin, chairman of the Organization Committee. The call of the meeting, read by Dr. Franklin H. Martin, secretary of the committee, summarizes the work for which the committee was authorized: "(1) It should formulate a minimum standard of requirements which should be possessed by any authorized graduate in medicine, who is allowed to perform independently surgical operations in general surgery or any of its specialties. (2) It should consider the desirability of listing the names of those men who desire to practice surgery and who come under the authorized requirements. (3) It should seek the means of legalizing under national, colonial, state or provincial laws, a distinct degree supplementing the medical degree, which shall be conferred upon physicians possessing the requirements recognized by this law as necessary to be possessed by operating surgeons. (4) It should seek coöperation with the medical schools of the continent which have the right to confer the degree of M.D., under the present recognized standards, and urge these colleges to confer a supplementary degree on each of its graduates who have, in addition to their medical course, fulfilled the necessary apprenticeship in surgical hospitals, operative laboratories and actual operative surgery. (5) It should authorize and popularize the use of this title by men upon whom it is conferred, and its use should especially be urged in all directories of physicians in order that the laity as well as medical men can distinguish between the men who have been authorized to practice surgery, and those who have not."

The corporation is to be known as the College. The College shall consist of all members of the corporation, to be known as Fellows, and shall vest the general management of the corporation in a Board of Governors, and the Board of Governors shall in turn vest the details of the management in a board of trustees, to be known as the Board of Regents, which shall consist of twelve surgeons, members of the Board of Governors, elected by the Governors, these to be divided into three classes whose terms of service shall expire in one, two and three years. Their successors shall be elected each for a term of three years. Not more than three of each class of four shall be elected from one country. The Board of Regents is increased to fifteen in number by three officers of the corporation, the president, treasurer and general secretary. The two vice-presidents are *ex-officio* members of the Board. The Board of Regents is the administrative body of the corporation, corresponding to a board of trustees in other corporations.

The Fellows of the College shall be graduates in medicine, who are legalized to practice medicine in their states and provinces, who have made an application for fellowship, such application to be endorsed by three Fellows of the College, one of whom shall be a member of the Board of Governors, and who meets the qualification requirements that shall, from time to time, be established by the Board of Regents, and who shall be elected to fellowship by the Board of Regents on recommendation of the Committee on Credentials.

The Fellows are to be divided into classes A, B, C, and D, classes A, B, and C to be admitted without examination under the following resolution: "*Resolved*, That the A class shall consist of founders of the College. The B class shall consist of the members of the special surgical societies constituting the Congress of American Physicians and Surgeons and one hundred each, nominated by accredited committees, from the Surgical Section of the American Medical Association, from the Section on Obstetrics, Gynecology and Abdominal Surgery of the American Medical Association, from the General Surgical Section of the Clinical Congress of Surgeons of North America, from the Division of Surgical Specialties of the Clinical Congress of Surgeons of North America, from the American Association of Obstetricians and Gynecologists, from the Surgical Section of the Canadian Medical Association, from the Southern Surgical and Gynecological Association and from the Western Surgical Association. The C class shall consist of surgeons of prominence of five years in the practice of surgery or a surgical specialty and who, in the opinion of the Committee on Credentials, are eligible for fellowship in the College without formal examination."

For all others, coming under Class D, the following resolution was passed: "*Resolved*, That the Board of Regents, through the Committee on Credentials, limit the admission of the Fellows to classes A, B, and C until the Board of Regents formulates a standard of requirements for class D and reports the recommendations back to the Board of Governors for approval at the meeting to be called by the Board of Regents in Chicago, November, 1913."

It will be the spirit of this association to open the fellowship to all competitors in surgery without favor. Scientific attainments, surgical ability, unquestioned moral character, measured by the College's standards, shall constitute the measure for fellowship. There are many hundreds of surgeons on the continent, who are not included in classes A and B, who fall into the C class. Applications from these men will be welcome and their names will have the most careful consideration by the Committee on Credentials. All applications for membership should be forwarded to the secretary of the corporation. It would add to the ease of the work of the Committee on Credentials if references in the way of vouchers or recommendations from one or more well-known surgeons accompany each application for fellowship.

The first convocation for the formal conferring of fellowships will occur in November, 1913. at a time and place that will be designated later. The first directory of Fellows will be distributed at that meeting. For that reason the applications for fellowships on the part of A, B, and C classes should be filed as promptly as possible in order to facilitate the correcting of lists for publication.

Officers elected were president, Dr. J. M. T. Finney, Maryland; first vice-president, Dr. W. W. Chipman, Quebec; second vice-president, Dr. Rudolph Matas, Louisiana; treasurer, Dr. A. J. Ochsner, Illinois; general secretary, Dr. Franklin H. Martin, Illinois.

COUNTY BULLETIN EXCERPTS.

The Bulletin, ALLEGHENY.

THE GENERAL PUBLIC do not have much real respect for the medical profession as an organized body of men. I contend that although this lack of respect may be due to a certain amount of justifiable ignorance regarding the real ability and aims of the medical profession, on the part of the public, that it is primarily due to the two following causes: (1) Because we are poor. (2) Because we are weak and unorganized. There is no denying the fact that the rank and file of our profession are poor, and that to this economic fact alone may be justly attributed some of the failings of our profession. We are, it is true, nominally engaged in a gainful calling, but it is needless to point out that no body of men whose chief and most cherished asset is an altruistic spirit, and whose principal endeavor is not only to cure sickness, but who by promoting the advance of preventive medicine are slowly but surely cutting off the very sources of their income, can ever expect to become very rich. The more we hold to our best and most cherished traditions, the less prosperous financially we are bound to become.

Medical Monthly, BUCKS.

IN ENDEAVORING to solve the puzzle, I have been studying the history and meetings of the North Penn Clinical Society. Here is a Section that was established more than five years ago. and during all this time it has had an average attendance of fourteen. Most of the members have long distances to come, some driving from six to nine miles to get to a railroad. Yet in summer and winter, in busy season, as in dull, they find time to attend these meetings. What is the magnet that draws them? They must get something that is worth while else they would cease their attendance. Yes, they do!

They have become so well acquainted they really know one another! They no longer mistrust, distrust and criticize each other. They have found that their brother physicians are real, live human beings; not arch enemies trying to make life unpleasant for them. Out of this intimate association has grown the practical work which is now being done.

The Bulletin, ERIE.

A VIEW OF THE CANAL. By Dr. David N. Dennis. The Canal Zone is unique in its government. It is part of a republic, and still is a beneficial monarchy. The things that have been accomplished could only be possible with this kind of rule. It has the reputation, and figures bore this reputation out up to the time of the taking over of the Zone by the U. S., of having the highest death rate, and of being the most unhealthy spot in the world. After taking over the French Canal Company with its railroad, buildings and hospitals, the sanitary engineers and physicians went in, clearing the Zone of its jungle, draining the swamp lands, covering the stagnant pools with oil, screening all buildings, enlarging and improving the hospitals, and making conditions so that life and health were possible to the workmen that were to follow.

There are two large hospitals in the Canal Zone, the principal one at Ancon on the Pacific side, of 1500 beds; the other at Colon with approximately 500 beds. The Ancon Hospital is a pavilion hospital with beautiful grounds, the nucleus of which was built by the French. This spot was chosen for two reasons. First, it is very much cooler, and the ground much higher than on the Atlantic side. There is not so much rainfall during the wet season, they having only about 80 inches of rainfall to 130 inches of rainfall on Atlantic side. The Ancon Hospital is used for acute cases. As soon as the patients are convalescent, they are sent to a sanatorium situated on a small island some few miles out in Panama Bay. Each small hamlet of workmen has its own dispensary, with one or more physicians detailed for dispensary work. The number of emergency cases in some dispensaries run as high as 200 or more cases per day. The major injuries, those that will be detained in bed, are immediately sent on to Ancon or Colon, although most of the severe cases go to Ancon.

Each station on the Panama R.R. has a small enclosure with the notice—"For Hospital Patients Only." Here the stretchers wait for the next train, when they are carried on to the main hospital. As a train passes every 3 to 5 minutes, the waits are not long. The physicians detailed for this work are all picked men, passing their examinations for this particular work only.

The salary is generous, carrying with it, in the case of married men, house rent, furniture, supplies at commissary prices that are a little above cost; six weeks leave of absence every year under full pay, transportation to New York at the minimum figure of $20.00. The salary of the unmarried men includes board and room with the leave of absence and transportation.

The Zone physicians have a medical society which is called "The Canal Zone Medical Association." This is in affiliation with the American Medical Society. One is impressed with the scientific enthusiasm and harmony existing among the men. Everything when referred to is spoken of as "We." "We have operated on so many cases," "We have treated so many cases successfully," "We have lost so many cases." This is certainly rather unusual. The superintendents of the hospitals are army officers. The darkies are instructed in orderly work and to act as assistants in the different departments. While extremely slow, they make exceptionally good helpers, and as it is possible to get an unlimited number, a great deal is accomplished. Plenty of help is necessary in the extremely humid and depressing climate of the zone.

The Bulletin, McKean.

Wherever there are physicians in practice, whether one or more than one, there is a medical profession. The public understands this and people use this language whether the physicians accept and adopt this collective designation or not. Every man in practice forms a part of a whole and makes some part of the reputation of the whole, whether he realizes it or not, whether he desires it or not. To this extent we are associated with one another because we can not escape from one another. We are grouped in the social scheme, a community unit, united under one inclusive designation, and treated by the community as a unit in thought, word and deed. . . . . To carry out the intention of society, the spirit of the law, every physician must continue to be a student throughout his life, which implies and includes also the rule that every physician must be willing to give up freely every item of information in his possession, that others may profit by it.

REVIEW.

THE CAREER OF DR. WEAVER. A Novel. By Mrs. Henry W. Backus. Cloth, decorative, illustrated; 12 mo., pp. 373; net, $1.25; postpaid, $1.40. Boston: L. C. Page and Company.

This book is a real novel, a well-written novel, and one that the average reader is anxious to finish that he may know how "it is coming out." The book has a special message in the interest of public health and the uplift of both physicians and society. Dr. Weaver is a popular surgeon with a private hospital and is as successful as he is skillful but his selfish personal ambition has crowded out all of his better self. Dr. Jim, his younger brother and assistant, is the real hero, the larger physician, and is both a physician and a citizen. This book should be read by physicians and by them commended to their patrons.

S.

CLINICAL LABORATORY METHODS. A Manual of Technic and Morphology Designed for the Use of Students and Practitioners of Medicine. By Roger Sylvester Morris, A.B., M.D., Associate Professor of Medicine in Washington University, St. Louis. Formerly Associate in Medicine, Johns Hopkins University; Associate Resident Physician, Johns Hopkins Hospital; Instructor in Medicine and Demonstrator of Clinical Medicine, University of Michigan. 8vo, pp. xx., 343. New York and London: D. Appleton and Company, 1913.

Dr. Morris has prepared an excellent manual in which are described succinctly methods of laboratory investigation susceptible of application by the general practitioner. The text is divided into six chapters, dealing successively with the urine, the gastric juice, the feces, the sputum, the blood and puncture fluids, and under each of these headings the special matters deserving consideration are taken up separately. The work must prove helpful in the hands of any user. A few orthographic lapses may be noted, such as *hyalin*, *guiac*, *Gunzberg*, *Ueffelmann*. The book is printed in large type, well spaced, on thick paper, and is bound in the usual Appleton style.

E.

CHILD HYGIENE ASSOCIATION OF PHILADELPHIA REPORT OF THE BABY SAVING SHOW, held May 18 to 26, 1912, together with the proceedings of the Conference on Infant Hygiene. 270 pages. Philadelphia: The Child Hygiene Association, Real Estate Trust Building. Price $1.00.

The organization, exhibition methods, and plan of financing the show are given in detail, together with a description of the various exhibits, fifty half-tone plates of the more important features that lent themselves to photographic illustration, and typographical reproductions of all reading matter appearing in the charts, tables and legends.

The exhibition was open nine days in Horticultural Hall, and was visited by 67,507 persons. During a single hour of one day 200 women with babies in arms entered the hall; on the same day, 1200 mothers with babies in arms were admitted. Four subsidiary shows, each of four days' duration, were held in different sections of the city immediately following the main show, with a total attendance of 39,831, making a grand total of 107,338.

The coöperating agencies, public and private, that took part; and the exhibits on special subjects such as infant feeding, care of the baby, patent medicines, hospitals and instruction are given. In the proceedings of the Conference on Infant Hygiene, which was held in conjunction with the Baby Saving Show, papers and discussions are given in full. The various subjects treated were discussed by some of the best authorities in this country.

The financial statement gives a classified analysis of the expenditures, amounting to $14,704. This is a remarkably low cost for an enterprise of the size and scope of the show. $5000 of the amount was appropriated by city councils which gave it a semi-official standing.

Considering the broad scope of the exhibition, the effectiveness of the exhibits themselves, the cordial coöperation between physicians and laymen, the active interest and large attendance on the part of the public, and the complete and typographical excellence of the report, the Baby Saving Show may properly be characterized as the most complete and effective exhibit of the kind ever held. L. F. P.

NEW AND NONOFFICIAL REMEDIES, 1913, containing descriptions of the articles which have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association prior to January 1, 1913. Cloth, 50 cents; paper, 25 cents. Published by the American Medical Association.

From its first 112 page edition in 1907, the book has grown steadily until New and Nonofficial Remedies, 1913, is a book of 320 pages. Although the introduction states that the inclusion of an article in the book is not to be taken as a guarantee for its value, it is nevertheless a fact that of the very many proprietary remedies on the market, those which are of promise to be of real value are to be found in the book. For this reason the busy practitioner is depending more and more on New and Nonofficial Remedies as a guide to the newer, worth-while drugs. The present volume has been increased by about twenty pages over the last edition through the addition of articles which have been accepted by the Council during the past year. These additions, it will be found include practically all the newer remedies which have attracted more than passing interest. As particularly indicative of the present trend of therapeutics will be found the very considerable increase in the number of serums and vaccines, some thirty or forty. Among the articles included in this book which were not contained in the last edition are salvarsan and its new brother, neosalvarsan; atophan and its near relatives, paratophan and novatophan; cornutol; an ergot preparation rendered permanent by sealing in air-free, glass containers and bearing the date of its manufacture on every package. The book contains a really starch-free diabetic food—casoid flour—and an improved liquor cresolis compositus—phenoco—having a germicidal strength more than five times as great. As an illustration of rational nomenclature the book contains a compound of casein and iodin the name of which discloses this fact by the common-sense title "iodo-casein." As an indication of the Council's desire to give physicians full information in regard to new remedies the statement is made that cresatin, although patented in the U. S., was described in 1903. Altogether, the statement appears unwarranted that physicians who want to keep informed as to the newer materia medica can not afford to be without this authoritative work. L. F. P.

PREVENTIVE MEDICINE AND HYGIENE. By Milton J. Rosenau, Professor of Preventive Medicine and Hygiene, Harvard; formerly Director of the Hygienic Laboratory, U. S. Public Health Service. With Chapters upon Sewage and Garbage, by George C. Whipple, Professor of Sanitary Engineering, Harvard; Vital Statistics, by Cressy L. Wilbur, Chief Statistician, Bureau of the Census, Department of Commerce and Labor; The Prevention of Mental Diseases, by Thomas W. Salmon, Director of Special Studies, National Committee for Mental Hygiene, etc. 8vo, pp. xxviii., 1074. New York and London: D. Appleton and Company, 1913. Price $6.00.

To the medical man has fallen naturally the conservation of the public health not less than that of the individual, and on his shoulders especially devolve the weighty problems of hygiene and sanitation. This responsibility is not unappreciated even by the ordinary practitioner, but the aspects of the subject have become so manifold and so complex that the investigative, preventive and corrective measures demanded can be successfully undertaken only by those especially trained and equipped for the purpose and devoting themselves particularly to this field of endeavor. A great step forward in this connection became possible with the progressively growing knowledge of the causative factors of disease and their mode of dissemination and entrance into the human body. As many, perhaps most, diseases are due to the pathogenic activity of low forms of life, vegetal or animal, the intelligent sanitarian must have primarily biologic but essentially medical training. Dr. Rosenau has had a large, varied and responsible experience—at the bedside, in the field, in the laboratory, in the classroom and in administrative position, at home and abroad in the domain of whose principles and practice he has undertaken an exposition, and he speaks with the authority of an expert. He has succeeded in compressing within a comparatively limited space the essentials in the field of preventive medicine, and he has been effectively aided by a trio of able collaborators who have dealt with special phases of the subject. The work has been divided into twelve sections as follows: (I.) Prevention of the Communicable Diseases, (II.) Immunity, Heredity and Eugenics; (III.) Foods; (IV.) Air; (V.) Soil; (VI.) Water; (VII.) Sewage Disposal; (VIII.) Refuse Disposal; (IX.) Vital Statistics; (X.) Industrial Hygiene and Diseases of Occupation; (XI.) Schools; (XII.) Disinfection. These are subdivided into chapters each dealing in detail with the varying phases of the topic in hand. The book is a timely one and it should prove serviceable not alone to medical students and practitioners but also and especially to health officers and sanitary engineers. The volume is well printed and bound and it is adequately illustrated. E.

SOCIETIES.

WILLS HOSPITAL OPHTHALMIC SOCIETY.

Meeting of February 3, Dr. S. Lewis Ziegler, Chairman.

Multiple Pterygia. Dr. William Zentmayer presented a case of multiple pterygia. Patient was a man, 24 years of age, engaged in press work. His attention had been called to the growths but two weeks before by a companion, but they were evidently not so recent in origin. In O.D. there were three points at which the bulbar conjunctiva was drawn over onto the cornea; below, to the temporal side and above. In O.S. there was one at the nasal side. The folds were small and nonvascular. They resembled the small attachments that are seen in marginal degeneration of the cornea.

Cicatricial Epicanthal Fold. Dr. Zentmayer also presented a case of extensive scarring of the face with production of a broad epicanthal fold. Patient, a girl aged 19 years, had been burned with acid when a child. The scar surrounded the outer angle of the mouth and extended upwards along the side of the nose and, at a point corresponding to the lower margin of the nasal bone, a fold of normal skin of the upper lid was caught, producing a condition resembling an exaggerated epicanthus. The deformity was corrected by freeing the incarcerated fold and raising it by removing a crescentic area of skin from inner angle of lid just above the inner canthus.

Intranasal and Sinus Conditions in Their Relation to Ophthalmology. Dr. Francis R. Packard, addressing the society by invitation, stated that, though the ophthalmologist has classified the eye lesions of intranasal and sinus origin, from the rhinologist's point of view of what pathological conditions of the nose result in ocular disturbance has not been quite so fully exploited. The author, after considering the ordinary sinus conditions and the methods to be employed in their diagnosis, spoke of the nasal septum and its important bearing on intraocular manifestations. In our search for purulent sinus disease we are apt to overlook other intranasal diseases which are capable of causing very grave eye disturbance.

Dr. Posey complimented Dr. Packard on giving so concisely the various rhinological lesions which might evoke ocular symptoms. He desired to refer briefly to another class of cases which Dr. Packard had not referred to, namely those in which ocular symptoms were set up by a mere congestion of the cells. He had noted, in such cases, marked though slight changes in the refraction, but was unable to explain how these occurred, but thought it not unlikely that they were dependent upon excitation of the ciliary muscles in consequence of the action of toxins generated within the inflamed sinuses.

Dr. Posey referred also to the obstruction of the lacrymonasal duct to which Peters had some years ago called attention and to which the name of prelacrymal tissue is usually assigned, citing the case of a young man recently under his care who developed a large mucocele of the sac which had been successfully removed *in toto* a year previously. Recently a firm mass conforming in its position and outlines to the latterly displaced wall of the lacrymoethmoidal cells had appeared, which had occasioned some displacement of the eyeball. Incision into the orbit discovered the swelling to have been occasioned by a distention of these cells by a mucocele, in consequence of which the bone confining the contents of the cells had been apparently absorbed, the mucus being prevented from permeating the tissues of the orbit by the thickened mucous membrane. After the evacuation of the cells, Dr. George B. Wood, who was assisting him in the operation, opened a passage into the roof of the nose and secured free drainage into that organ through a large drainage tube. The orbital wound was then closed and a firm pressure bandage applied. Healing of the wound was prompt and there have been no complications. The tube will be removed after three or four weeks.

Dr. Samuel D. Risley said he was personally indebted to Dr. Packard for his thoughtful paper based so obviously upon a large experience. Regarding difficulty of diagnosis in disease of the sphenoid sinus he was quite in accord. He asked whether Dr. Packard had observed anything characteristic in the pain. in one case Dr. Risley had seen, bitter complaint was made of a deep-seated "bursting" pain in the head. He asked whether the essayist favored opening the frontal sinus above the supraorbital ridge, stating his own preference for an incision into the floor of the sinus since it was readily accessible, afforded better drainage and caused less deformity. Speaking of the congestion and stuffing of the nostrils and accessory sinuses, he thought it important to carefully consider the systemic conditions before proceeding to surgical procedures. So-called "colds" were often the expression by the mucous membranes of intestinal toxemia and acidosis, and improved rapidly under suitable treatment of the faulty systemic state.

A New Point in the Technic of Blepharoplasty. Dr. William Campbell Posey exhibited a woman upon whom he had recently restored the outer half of upper right eyelid, which had been excised by another surgeon some months previously on account of epithelioma, by a pedicle flap taken from the forehead. To provide the flap with an epithelial lining, thereby preventing in a measure its later contraction and the irritation of the eyeball by the juxtaposition of the subcuticular tissues of the pedicle flap, he inserted a quadrilateral flap of skin from the fold of skin just below the brow and had turned it down over the eyeball, leaving its lower margin attached to what remained of the mucous membrane of external portion of superior cul-de-sac. Union had been prompt throughout and he had been much gratified by the excellent contour imparted to the lid, by its motility which it had acquired by its attachment to the inner half, and by the soft skin lining of the lid, which was entirely nonirritating to the eyeball.

Tumor of the Ciliary Body. Dr. Aaron Brav exhibited a patient, aged 32 years, who had consulted him for glasses. Upon examination it was found that the patient had a paralysis of the right external rectus muscle, and in the outer lower quadrant of the anterior chamber there was a distinct mass, 6 x 4 mm. in size, filling in the angle of the anterior chamber at that point. The mass was of dark brown color except in its extreme periphery where the color resembled the iris. The mass was nonvascular, and was apparently causing no symptoms whatever.

J. Milton Griscom, Secretary.

PHILADELPHIA POLYCLINIC OPHTHALMIC SOCIETY.

Meeting of February 13, Dr. Wendell Reber in the Chair.

Complications during and after Cataract Extraction. Dr. W. C. Posey said that many complications may be avoided by development of skill in operating upon eyes of lower animals, before essaying extracting of lens from human eye. A badly constructed speculum is responsible for many accidents. He preferred the Murdock. Dislocation of lens during extraction and subsequent loss of vitreous may often be avoided by a skillful handling of the cystotome which must be sharp. He warned against dipping point of knife too deep into angle of anterior chamber at point of counter puncture. A well-placed conjunctival flap hastens healing and prevents later complications. Loss of vitreous often occurs from gaping of wound in consequence of patient's being directed to look down too far. He deprecated performance of Smith operation on account of loss of vitreous so often entailed. He prefers simplest manner of extracting with iridectomy. While most cases of infection arise from external sources, from germs in conjunctiva or from unclean instruments or drops, endogenous causes operate at times, especially in gouty and diabetic cases. An active internal medication, directed toward sublying systemic cause, must always be joined with local treatment in all such cases. Rise in tension is due either to a change in nature of intraocular fluids or to obstruction of angle of anterior chamber of iris, lens capsule or other mechanical cause. Division of the obstructing band can often be accomplished by a sharp knife needle. Blood which may fill anterior chamber consequent upon iridectomy is seldom of consequence but massive hemorrhages, which at times occur and are dependent upon ruptures and varicosities in choroidal veins, usually demands enucleation. With first symptoms of panophthalmitis lips of wound should be cauterized and hot compresses applied. Mental disturbances arise on second or third day after operation in nearly 10 per cent. of cataract cases. Cause is largely psychic, dependent primarily upon impoverished brain cells in consequence of sclerotic vascular changes. Normal cerebration returns in a week or more, insanity arising only in patients who had manifested mental changes prior to operation.

Unusual Procedures in Cataract Operations. Dr. William Zentmayer: Preliminary iridectomy may be performed either as a preparatory operation for extraction of a ripe senile cataract or an immature cataract either in a young individual or in the aged. In first class of cases it is comparatively rarely done, in second it is usually associated with some procedure calculated to induce maturation of the cataract and in last class it may be done to avoid greater danger of dense secondary when combined operation is done. In this class the preliminary operation is not frequently done as experience has shown that there is little cortical remaining at this time of life.

Ripening operations may be done with or without iridectomy. In the earliest, Foerster's, an iridectomy was combined with massage of lens through cornea, later Bettman, White and others did direct trituration by introduction of a spatula into anterior chamber with which lens capsule was stroked.

About ten years ago, Tynen of Texas, who was performing capsulotomy as the first step in cataract operations, stated that he thought that at extraction of immature cataracts the lens escaped more readily. Some years later Homer Smith advocated preparatory capsulotomy for purpose of ripening cataract. His operation consists in making a crucial incision in the anterior capsule with a specially devised miniature scalpel and 24 hours later delivering lens. Later Fridenberg modified the operation by two peripheral parallel incisions so that a capsulectomy could be done at time of extraction of lens. For extraction of immature cataracts the Smith Indian operation is applicable.

Use of corneal sutures to aid in early union of lips of wound were considered of value in cases where loss of vitreous was anticipated. Sutures should then be inserted before section is made, suture being of sufficient length that loops may be drawn aside while section is being made.

Advantages of having a complete conjunctival flap has led to adoption of the unusual procedure of injecting a few drops of some sterile solution in conjunctiva in position of counter puncture so that point of knife can be carried required distance under that membrane after emerging from corneal tissue. In making puncture the point of knife is entered under conjunctiva before penetrating corneal tissue. If knife is brought out subconjunctivally on finishing section, a complete conjunctival flap will have been secured. Recent Belgian method is ingenious and had but one objection, the danger of infection by presence of two sutures. In operation conjunctiva is freed from upper limbus over area included in corneal incision and undermined for some distance. A suture is inserted at either end of conjunctival flap and brought out on the bulbar conjunctiva at limbus a short distance below point where corneal incision starts, by tying two ends of each suture conjunctiva is drawn down over cornea completely covering corneal incision. Couching of lens might be necessary to give sight to an insane person with cataract, or it might be called for in presence of a virulent conjunctival secretion which had proved rebellious to treatment in presence of a dacryocystitis in circumstances which existed precluding extirpation of sac.

Operations for After-Cataract. Dr. Wendell Reber: The conditions which present "after-cataract" vary according as healing of eye has been complicated or uneventful. Simplest condition with which you will have to deal is an eye which has healed easily. Ophthalmoscopically with a plus 7 to plus 12, small opacities in posterior capsule will be seen. For such condition a T or crucial incision is done.

Another cause of "after-cataract" is a proliferation from remaining lenticular cells. It will give rise to a denser mass to deal with. If there is lenticular matter to deal with it may become massed on anterior capsule. These three conditions, however, are reasonably easy to cope with. When iritis or cyclitis follows operation, it is a different story; it almost surely compels some manner of secondary operation. About 40 per cent. of cataracts operated upon present some degree of postoperative iritis. I mean the condition that begins to develop about sixth day after operation, this in spite of a very careful extraction and most careful treatment of patient afterward.

When eye has quieted down completely after an iridocyclitis and has so remained for two to three months, instead of a simple incision, it will be necessary to do an iridotomy. This may be done with DeWecker's scissors, or with Zeigler's iridotomy knife. With this instrument one can sometimes secure a very satisfactory pupil even though its edges be irregular. It is a difficult operation to do. If knife is introduced too far back one does not get as good a fulcrum as if entry point is 2 mm. in front of limbus. The least traction exerted on iris and ciliary body the better. No bandage should be applied, but atropin and argyrol (20 per cent.) instilled at once, ice compresses applied to eye and a course of calomel administered internally will usually prevent recurrence of postoperative inflammation.

All iridotomies and capsulotomies or capsulectomies should be done under artificial light with strongly condensed illumination. Careful study of field of operation (before operating) under condensed light is imperative if success is to follow.

Users of capsule forceps (capsulectomy) agree that they render unnecessary a secondary operation on capsule. Recent reports would lend much probability to this claim, which is not yet absolutely proved, however.

Dr. Zentmayer said that in cases of dense inflammatory membranes he would try the Zeigler operation and if this failed he would do operation devised, he thought, by Kuhnt. A narrow Graefe knife is entered at lower third of cornea 1 mm. inside limbus, point is thrust through iritic membrane at once, blade is then carried parallel to and behind iritic membrane until a point about 1 mm. from opposite limbus is reached; it is there brought out through cornea and a downward incision through membrane and cornea is completed. Iris incision usually springs open giving a large opening; should it not have sufficient resiliency for this to result it may be grasped with forceps and brought out through wound and there snipped off.

Dr. Reber: The suggestion encountered in many textbooks that "prolapsed vitreous should be cut away with scissors and toilet of wound then completed" has always interested and amused me greatly. Most frequently vitreous is semifluid and shows a disposition to flow all over field of operation. To attempt to abscise such vitreous is to my mind a fearful waste of precious time. Average operator in presence of vitreous loss is only too anxious to get speculum out as quickly as possible and allow eye to close. Usually the patient realizes that something has gone wrong and becomes unruly. After eye has been held closed a few moments he may regain composure. Then if lids are very carefully opened and the corneal conformer I have described is introduced, situation is entirely under control. Iris may be returned and if so desired a corneal suture introduced. I have done this three times. There is nothing I know of that will afford the feeling of security thus gained. I am distinctly of the opinion that some day this will become an accepted procedure in ophthalmic surgery. Vitreous loss is admittedly most formidable complication of the cataract operation and anything that promises prevention or control of this calamity demands our careful consideration.

D. FOREST HARBRIDGE, Secretary.

PHILADELPHIA LARYNGOLOGICAL SOCIETY.

Meeting of March 18, Dr. Ross Hall Skillern in the Chair.

New Instrument for Treatment of Suppuration of Antrum of Highmore. Dr. E. B. Gleason exhibited the instrument for production and maintenance of a comparatively large opening from maxillary antrum into nose beneath inferior turbinated body. It was devised after considerable experience in treatment of antral suppuration with Wells' trocar and rasp cannula, and is a double-ended trocar, one end probe pointed, other end triangular sharp point. Both ends are slightly curved at tip, and of diameter of No. 18 of French catheter scale. On concave surface for one and three fourths inches is a coarse file or rasp so constructed as to cut on the pull. Instrument is designed for treatment of chronic suppuration only, as acute suppuration, unless caused by gangrenous tooth pulps or some other neighboring forms of infection, quickly subsides by treatment addressed to region of maxillary ostium or a few irrigations of antrum through a Lichtwitz needle.

In chronic suppuration diagnosis is confirmed by thrusting a Lichtwitz needle into antrum, through so-called "soft spot" beneath inferior turbinate, somewhat anterior to middle of its suture with nasal wall, after thorough cocainization of this portion of nose with a twenty per cent. solution. Antrum is then washed out through hollow needle with sterile normal salt solution, which is collected for inspection, in a finger bowl held by patient, as it flows from nostril. Should irrigating fluid contain characteristic pus of chronic suppuration, needle is withdrawn and triangular point of trocar placed in needle puncture and rotated until trocar penetrates antrum as far as its lateral wall. Instrument is withdrawn in such a manner that coarse file is pressed firmly against anterior edge of opening, a considerable portion of which is thus cut away. Instrument is then reversed and its probe-pointed end inserted into antrum and file used in such a manner as to produce an oval opening rather larger than a ten cent piece. As nasal wall of antrum is very thin in this locality and the coarse file rasps away soft bone like a succession of knife blades, an opening of this size is very quickly made. Antrum is irrigated every day by surgeon through an eustachian catheter until patient has learned to insert the catheter into antrum and irrigate it.

Patient is instructed to irrigate antrum each day with one or two pints of normal salt solution and present himself for inspection at surgeon's office once or twice a week. A cure is greatly hastened by constant drainage of antrum into nose by large opening in its nasal wall, which, however, tends to close quickly as the result of exuberant granulations on edge of opening. These are cut away from time to time with probe-pointed end of the instrument until edge has cicatrized.

Diseased Conditions of the Ethmoid Region. Dr. Frank Embery: When I say diseased conditions here I mean the word in its broadest sense, to include adhesions, hypertrophied tissues especially. It has been my experience that a considerable amount of nasal discomfort is due to pressure in this region, as well as stenosis of the frontonasal duct, the result of hypertrophied tissue and adhesions. We have in the region under consideration anterior end of middle turbinate, anterior ethmoid cells, bulla ethmoidalis, uncinate process, and the outlet frontonasal duct.

I have frequently seen anterior end of middle turbinate so hypertrophied as to completely fill space between septum and outer wall of nose and be in firm contact with both walls, even after applications of cocain and adrenalin. I have seen the bulla ethmoidalis so large as to force middle turbinate hard against septum. Anterior ethmoid cells are frequently enlarged and in contact with septum. Adhesions between these cells and the septum are not infrequent. You can readily understand how the least irritation and congestion will cause distress, varying from a simple discomfort to intolerable headaches. These headaches are sometimes very intense and give sensation of a band around the head. Neurasthenia and asthenopia are frequent results. The uncinate process may be overdeveloped and with a moderate enlargement of middle turbinate, or the bulla ethmoidalis, cause a partial or complete stenosis of the frontonasal duct, interfering greatly with the drainage and ventilation of the frontal sinus. These conditions we have probably all seen on many occasions; we can hope for relief only by operative procedures. I have never seen any satisfactory results from chromic acid or other escharotics.

Regarding operation for hypertrophied middle turbinate, when middle turbinate is so enlarged as completely to fill space between septum and outer wall of nose, it is impossible, at least to me, satisfactorily to use an instrument like a biting forceps or scissors to make initial cut in which to place snare, because when such an instrument is opened there is no room between turbinate and nasal walls for blades of instrument. If you force blades between enlarged turbinate and nasal walls you push ends of blades into walls on either side. In 1910 Lentz made for me this chisel. It has a narrow cutting end. It is concaved with concavity looking downward. End is slightly notched to keep it from slipping and extremity is slightly curved so that it makes a horizontal cut instead of cutting upward. Notched end is placed so as to embrace turbinate just at its attachment to ethmoid. Firm pressure with fingers engages the cutting edge and a few gentle taps of mallet (I always use a lead mallet because there is no recoil) sends instrument into bone. When you have made horizontal cut far enough back you gradually elevate handle, which depresses the cutting edge and as you gently tap with mallet you cut downward. You can now by using a little pressure with your fingers force portion which has been almost detached down into nostril where there is more space and you can easily place loop of snare around as much as you wish to remove and quickly detach it. I have used this chisel many times and it has never failed to do its work. It can be used to break into ethmoid bulla and cutting forceps will satisfactorily finish the work.

For anterior ethmoid cells I frequently use a rasp. This instrument, made at same time as middle turbinate chisel, has curved extremity. Cutting portion is triangular, has teeth on two lateral surfaces, and is made to cut only on the draw. It is used only to open these cells and a cutting forceps is used to finish. For removal of hypertrophied uncinate process when desired, I had made two rasps, for right and left side. They are same general construction as previous rasp except they cut upon only one surface, and are made in this way so as to avoid injuring mucous membrane of septum. They are placed back of uncinate process and pressed tightly against it, and drawn gently but firmly against tissue. They of course cut only on the draw. They are also very serviceable in removing adhesions between anterior ethmoid cells and septum. When adhesions are removed in this region a piece of wax and paraffin wafer is pushed up in place and supported by gauze below.

To enlarge frontonasal duct in case of stenosis, I first endeavor to pass a fine applicator, properly curved and wrapped firmly with a small amount of cotton. This is dipped in a 20 per cent. solution of cocain and a little adrenalin. As a rule it is necessary to remove anterior end of middle turbinate. When I have been able to pass this cotton-tipped applicator into, or almost to, ostium of frontal sinus, I commence with smallest Sullivan rasp. I purchased my set of Sullivan rasps last summer and have used them many times. They have teeth on anterior surface only and cut only on draw. They are made in set of five. I use these instruments one after the other until I get a free, patulous duct. I then irrigate sinus with warm normal salt solution. For irrigating frontal sinus I have found an ordinary silver eustachian catheter properly curved to be very satisfactory. I have a tip of a two-ounce matchless syringe made to fit catheter. I have found this method very satisfactory and neat. I usually finish by injecting about 1 dram of a 10 per cent. solution of argyrol.

Dr. A. H. C. Rowand, discussing: The rasp has certain advantages in anterior ethmoid region, although frequently able to maintain good drainage with spray of cocain and adrenalin. Often diseases of vicious circle date back to diseases of childhood. Infraction of the middle turbinate will often establish good drainage and ventilation. If this is not accomplished by this method, then remove anterior third of middle turbinate with snare and scissors.

Dr. G. W. Mackenzie: One of common causes of asthenopia and headaches is hyperplasia with cysts or scrolls of middle turbinate. Middle turbinate may be pressed so firmly between septum and lateral wall that it is often impossible to snare, even after shrinking with 20 per cent. solution of cocain. In such case Hajek's hook should be employed, after use of which turbinate will collapse; snare or scissors may then be employed to remove anterior third. Cysts are usually thought to contain pus, but from great number he has removed during past eight or ten years he has not been able to find any pus. We can never be too radical in operating in this region.

Dr. E. B. Gleason spoke of using Farnum's alligator forceps in removing anterior portion of middle turbinate, also uses snare and curved scissors, and has used the Ballenger knives on the cadaver, but never on the living.

Treatment of Secondary Hemorrhage following Operations on the Nose and Throat. Dr. P. S. Stout: Secondary hemorrhage following operations on nose and throat is by no means rare. One operator at last meeting of A. M. A. reported fifty cases of fatal hemorrhage. How many of these were secondary hemorrhage I do not know.

I have drawn freely from such writers as Ballenger, Phillips, Gleason, Smith, Piersol and Packard. Secondary hemorrhage following nose operations may be looked for at any time, whether operation is slight or extensive. If no packing was used after operation, as is now frequently practiced, and you find blood oozing from around clot it is best to wash out nostril thoroughly and then inject hot water, around 130° F., or ice water, being careful, however, not to use too large a quantity. After nostril is clear of blood, look quickly for any bleeding point. If you discover one, apply adrenalin solution, peroxid of hydrogen, or solution of tannic and gallic acid. If bleeding still continues, then some form of packing should be used. Bernay-Simpson's splints or narrow pieces of gauze packed in both nostrils usually will suffice. Sometimes even after this bleeding still continues. It then becomes necessary to remove packing, and pack posterior nares by means of Bellocq cannula, and further support this by packing anterior nares. These tampons should not remain *in situ* more than twenty-four hours. If bleeding still continues horse serum injections should be used, as probabilities are you are dealing with a hemophiliac.

Dr. G. M. Coates: Hemophilia is a rare disease, and ordinary cases of oozing and secondary hemorrhages are not true hemophilia, but result of delayed clotting. If clotting time is delayed over seven minutes there is more or less hemorrhage. In a case at the Pennsylvania Hospital a few days ago, that of a young girl, on whom was performed a tonsillectomy, hemorrhage lasted from two to three days. This was a case of true hemophilia. History showed that quite a number in family had been bleeders. Animal serum was used, which saved her life. Regarding use of thrombokinase, one must have a fresh supply on hand, as it only keeps a week. In tonsillar hemorrhage, if uncontrolled by pressure, one can suture pillars and use perforated shot.

Dr. Ross Hall Skillern reported a case of primary hemorrhage in case of tonsillectomy, in girl 18 years of age, under ether narcosis. Hemorrhage was controlled by clamping and suturing.

Dr. E. B. Gleason spoke of controlling hemorrhages from septum by use of Simpson's cotton splints, or cotton wound around an applicator, and then saturated with peroxid of hydrogen wedged into nares, and in tonsil hemorrhage, digital pressure with two or three small sponges, removing one after the other to find seat of hemorrhage.

Dr. W. A. Hitschler believes that majority of accidents, especially in tonsil operations, are due to fact that there is failure to treat them as hospital cases, as when operated on at office under local anesthesia, they are not put at rest or under a strict regime. He has his patients lie on their faces so that a slight hemorrhage may be detected by staining of pillow.

Dr. G. W. Mackenzie has been doing operative work on nose for quite a number of years, and can not recall a single bad hemorrhage. He keeps patient quiet in office for a period long enough to have effects of cocain and adrenalin wear off (say 2 or 3 hours), and in that time if there is to be any hemorrhage it will be detected. He does not see why we should fear hemorrhage in nose, as pressure on bleeding point will stop any hemorrhage. In case of septum operations or spur operations, sometimes there is difficulty in finding bleeding point. He uses gauze instead of cotton, as splints will soften and one does not get pressure on spot as from gauze. In tonsil hemorrhage, if it is persistent, he would advise suturing, and would caution against tonsil clamps, as necrosis may follow their use.

Report of a Case of Thiosinamin Poisoning. Dr. W. A. Hitschler: Otologists everywhere will welcome any remedy which would prove of value in otosclerosis or various chronic adhesive processes of middle ear. Futility of our efforts along this line is duly and properly recognized by otologists themselves. With respect to chronic adhesive processes, while we may say, in all truth, that fault lies rather with those concerned in recognition and treatment of cases in their early stages, *i. e.*, acute catarrhs and suppurations, it would be a boon to many unfortunate sufferers from tinnitus and deafness could we rectify damage done by even unintentional neglect.

Of classical remedies employed, classical only because of their time-honored employment and not because of their efficiency, none has ever inspired much enthusiasm or hope, due regard being given to exceptions to all rules. It is therefore a matter of no surprise that a new remedy is welcomed.

Some years ago thiosinamin was highly recommended as an agent for absorption of scar tissue. Tousey states that thiosinamin has positive curative properties in causing resolution of benign and malignant tumors and absorption of cicatricial tissue, it acts specifically upon certain abnormal tissues, causing their absorption or conversion into normal tissues, is of great value in removal of cicatricial contractions following lupus or any other cause of loss of substance. Contractions from burns, corneal opacities and keloid yield to its action. Quoting from another observer, Lance, "Thiosinamin has been used with success in the treatment of deafness due to adhesive otitis, also in stenosis of the eustachian tube." Other observers have made similar statements, many of which would be important, if true.

I have been using thiosinamin in diseases of middle ear since 1907. At first I used it internally only, and later combined internal administration with local injection into middle ear by way of eustachian tube. Whether it has been of any real value I am not prepared to say. Some cases have shown improvement after other methods had failed, some have shown no change, while others have grown worse. Naturally effect of local treatment, *e. g.*, inflation, etc., can never be separated from general results in cases in which I have tried it, since I have always combined local treatment with administration of drug. It is, however, concerning its toxicity that I wish to call your attention. Earlier observers declared it to be practically harmless. Later, Hayn and Clifford reported cases of poisoning with violent vomiting, nausea, rigors, cardiac weakness, rapid pulse and fever. Unusual symptoms were apathy, headache, muscular prostration and a purpuric rash in skin and mucous membranes. In one of my cases, increased cardiac action was noted which disappeared upon withdrawal of drug, reappeared upon repeated administration, and again disappeared upon withdrawal. In another case, patient was a dentist, aged 50, in excellent physical condition. Diagnosis, otosclerosis and chronic adhesive processes with some obstruction to eustachian tube. Tinnitus was of six or eight years' duration, deafness ten years. No paracusis willisians. Usual methods were employed, such as injection *per tubam* of pilocarpin, vaselin, etc., and the passage of bougie. But slight improvement resulted. Patient consented to employment of thiosinamin, having been duly informed of its experimental nature. At beginning I used half a grain internally *t.*

i. d., with instructions to gradually increase dosage. For a period of four years he took, not continually, but at more or less frequent intervals, from a half to three grains daily. Gastric irritation, a garlic odor to the breath, and a loss of weight were noted before any decided toxic symptoms manifested themselves. These latter began as a bilateral nasal hemorrhage followed next morning by hemorrhagic patches on gums at junctions with teeth, on tongue, buccal mucous membrane and mucous membrane of hard and soft palates, varying in size from 1 mm. to 1 cm. in diameter, also a large number of areas in skin of face, arms, legs and body from 1 mm. to 4 cm. in diameter. Patches were elevated in mucous membrane but not in skin. Urine was loaded with blood, but no casts nor renal epithelium were found. Epistaxis was confined to Kiesselbach's spot on each side of septum. No hemorrhage occurred in drumheads or conjunctivæ. There were no ocular or cerebral symptoms. A large amount of blood was lost and considerable weakness noted, to say nothing of apprehension. Patient's home was forty miles from Philadelphia, and at onset of toxic symptoms, he was placed in bed and treated by his local physician. On third day, nasal hemorrhage continuing and becoming alarming, he left his bed against medical advice and came to my office. It was necessary to use electric cautery to check hemorrhage. He returned home, went to bed, for a few days and in less than three weeks showed no sign of purpura or hematuria. Loss of weight was soon recovered. As far as effect on ears was concerned his tinnitus was not so noticeable, deafness was increased in left ear, but improved in right.

F. M. STROUSE, Reporter.

COUNTY SOCIETY REPORTS.

BERKS—MARCH, APRIL.

The meeting of the Berks County Medical Society was held March 11, with Dr. Shoemaker in the chair and twenty-one members present. Report of auditors was received and placed on minutes.

Dr. G. W. Overholser read a paper on the "History and Etiology of Diphtheria," tracing its history back to 500 B.C. when it was recognized by the Egyptians, while tracheotomy was first performed about 100 B.C. History records many epidemics. 1613 was known in Spain as diphtheria year. In 1821 Pierro Bretomeau read an essay before the French Academy of Medicine in which he demonstrated to the world that different types were due to same cause, formation of pseudomembrane.

Dr. Heister Muhlenberg discussed the "Bacteriology and Pathology of Diphtheria." Discovery of the bacillus by Klebs in 1883 and in 1884 Leffler first produced it in culture. Dr. Overholser advocated early use of antitoxin and in more powerful doses. He cited methods used in the Municipal Hospital, Philadelphia where they divided the cases into three classes, (1) those of streptococcic infection of tonsils which were given 5000 units and returned home at end of a week; (2) moderately severe cases which were given two injections of 9600 units with favorable results; (3) severe cases requiring sometimes 25,000 units.

Dr. W. F. Muhlenberg and Dr. Samuel Kurtz spoke on "Treatment of Diphtheria" before the days of antitoxin, when the mind of the profession was confused by the fight between those who believed that the affection started as a local disease which later infected the constitution, and others who believed it was primarily a constitutional disease with local manifestations. The treatment at that time consisted in free purgation, administration of tinctura ferri chlorid and potassium chlorid and inhalation of slaked lime.

Dr. Borneman of Boyertown mentioned an epidemic of a virulent type in 1879 when he attended 100 cases with a mortality of ten per cent. The peculiarity of the disease showed in its increasing north of the starting point and not south: those complicated by enlarged cervical glands were usually fatal while the others were not. He believes that many cases now diagnosed as diphtheria are not diphtheria and that malignant cases of the disease will prove fatal even if antitoxin is administered. In this epidemic he had only one case of paralysis and patient recovered. Dr. Frankhauser, in discussing these cases, believes the ensuing cardiac failure to be due to exhaustion and not to paralysis. Dr. Becker found an emetic efficient in loosening membrane.

Dr. W. S. Bertolet paid a high tribute to the men who risked their lives in attending these epidemics and compared them with Captain Scott and his associates who gave up their lives in search of the South Pole, deeming them equally worthy of a nation's gratitude.

At the April meeting of the Berks County Medical Society there were thirty-four members and several guests, Dr. George P. Müller of Philadelphia, being the speaker of the day. Dr. Müller opened his remarks with a brief discussion of advances being made in surgical technic, whereby operations can be performed on regions hitherto thought inaccessible. He referred to the surgery of the cranial cavity and the wonderful results obtained under the leadership of Cushing and Frazier in this country; to the surgery of the thoracic cavity where recent investigation has developed technic by which the lungs can be kept inflated with the thorax wide open, operations thus being possible on the esophagus and on the lungs and mediastinum which hitherto have been thought to be impossible. The surgery of the abdomen was better known and most of us are familiar with its development.

Recently the attention of surgeons has been directed to the open treatment of fractures, especially because of the propaganda of Mr. Lane of London. The report of the Committee of the British Medical Association on the Treatment of Simple Fractures, which appeared last winter, illustrated the reason for surgical interference in simple fractures. This report showed that in those over the age of fifteen years the aggregate results of the nonoperative treatment of fractures are not satisfactory and that in the analysis of the age groups it is shown that there is a progressive depreciation of the functional result of nonoperative treatment as age advances, that is to say, that the older the patient the worse the result. An examination of the published statistics reveals, for instance, that in fracture of the shaft of the femur, a good result could be expected in less than seventy per cent. in those from sixteen to forty-five years of age and in less than forty per cent. in those over forty-five years of age. The results in children under fifteen were uniformly good and averaged ninety-five per cent. Or, again, in fracture of both bones of the leg a good result could be expected in only seventy per cent. of the cases. While these figures are probably lower than those that could be obtained in this country the fact remains that nonoperative treatment of fractures, as at present carried out, is unsatisfactory in certain bones, especially the femur, humerus and bones of leg. Operative treatment is open to objections of possibility of death resulting from operation, or loss of limb from sepsis, but, with these exceptions, a properly performed operation gives almost uniformly good results. Dangers from operation are real if those without technical skill or equipment should enter this field but were almost nil in hands of those who could maintain a perfect technic and who were habitually performing operations. Dr. Müller believes that almost all fractures of the shaft of the femur should be operated on, and those fractures of humerus where reduction could not be maintained and those fractures of the tibia where displacement and shortening could not be corrected should also be subjected to early operation. With these exceptions fractures of the long bones should be treated expectantly unless deformity was such as would subsequently interfere with proper function, in which case operation should unhesitatingly be performed. He believes that it is essential for a successful operation to adopt the technic of Mr. Lane and to use the Sherman vanadium-steel splints and to remember that callous formation after perfect approximation is less than after healing where overlapping is present. He called special attention to certain complications of Colles' fracture and Pott's fracture and stated that the results of the latter were unsatisfactory in at least one half of cases, the patient complaining of pain and flat foot. Many other points in the treatment of certain special fractures were discussed and a complete set of instruments used in bone surgery were demonstrated. A lantern slide demonstration was then given showing results obtained by Dr. Müller in a number of cases of fracture where operation had been performed and the series included a group of six cases operated on in the Reading Hospital. He closed with the statement that while at present time the open method gives better results than the closed the procedure in the future should not be more operative but better nonoperative treatment.

Clara Shetter Keiser, Reporter.

BLAIR—April.

The Blair County Medical Society met in regular session in Altoona, April 22, at 8:30 p.m., with thirty-three members and six visitors present. Preceding the meeting a luncheon was served. Dr. Wilmer Krusen addressed the society on "Medical Gynecology."

The address was of a practical nature and full of sound advice to the general practitioner as well as specialist. He placed great stress upon the palliative especially in school girls in regard to dress, exercise, and education on "sex hygiene." He dwelt on the importance of public education in regard to carcinoma.

Dr. Horace R. Smith, who has always been a faithful member, but during the last year or more has not taken an active part, was elected an honorary member.

CHARLES W. DELANEY, Reporter.

BUTLER—APRIL.

The Butler County Medical Society met in the University Club rooms in the Campbell Building, April 8, Vice-president Brooke in the Chair.

Dr. H. J. Neely read a paper on "Sexual Hygiene" which was well received. He reported several cases in his own practice in which the nervous system was affected by bad hygiene with recovery when proper hygiene was observed.

Dr. L. L. Doane reported a case of injury to head in which the retina of eye showed an abnormal redness upon side of paralysis. Dr. J. C. Boyle reported a case in which the eye had been destroyed by a shot from a toy gun and eye enucleated with particularly good results as to movements of artificial eye.

W. B. CLARK, Reporter.

CARBON—APRIL.

The meeting of the Carbon County Medical Society was held in the parlors of the American Hotel, April 18, President E. H. Kistler, presiding. Dr. David Riesman of the University of Pennsylvania, was present and spoke on "Failing Circulation," making remarks on its diagnosis, prognosis and treatment. The paper was enjoyed by everyone present.

C. J. BALLIET, Reporter.

CRAWFORD—MARCH.

The Crawford County Medical Society met in Meadville, March 5, with seventeen members present. The Library Committee reported arrangement made with the City Library to care for the society's library.

Dr. G. E. Humphrey read a paper on "Causes and Symptoms of Acute Anterior Poliomyelitis." He spoke briefly of history of the disease and discussed etiology, especially the different theories of method of transmission.

Dr. G. D. Thomas spoke on "Treatment of Acute Anterior Poliomyelitis." It having been proved that cause of the disease is an infecting ogranisms, the treatment is, or should be, largely preventive, by (1) isolation of the sick; (2) quarantine; (3) treating those attendant upon the ill by local applications to throat and nasal passages. Also internal administration of hexamethylenamine; (4) if the bite of the horse-fly is responsible (as in many instances seems to be proved) then the destruction of this insect; (5) if it is the dog that is the very latest to be accused of carrying the infection, then such care along this line as to prevent; (6) guarding against those who become "carriers." Medical treatment is largely symptomatic: In the beginning, quiet; at times, a plaster cast even; after the acute symptoms, massage; later on, in the worst cases the correction of deformities by orthopedic surgery.

Dr. W. H. Quay presented for examination a child who had had the disease some months previous.

Dr. Hamaker reported a case of extrauterine pregnancy at term. Cesarean section was performed, a dead child removed and recovery of the mother ensued.

CORNELIUS C. LAFFER, Reporter.

ERIE—MARCH.

The Erie County Medical Society met at the Public Library, Erie, March 4, with Dr. Strickland presiding and thirty-one members and ten visitors present.

"New Methods of Anesthesia," was presented by Dr. Frank Gamon. Closed method of etherization of ten years ago was compared with open method preceded by a sedative as used extensively to-day. Preliminary morphin alone or with atropin, hyoscin or scopolamin should be given in all cases except the very young, and in small doses to the aged. Doses of morphin: 1/16 to 3/8 gr. between ages of ten and twenty years, and 1/4 to 3/4 gr. between twenty and sixty years. Advantages claimed are placid mind and receptive mood; no horror of anesthetic; no struggling, choking nor excess of mucus; great reduction in postanesthetic vomiting; little variation in pulse rate and great reduction in amount of ether used. Popular sequences in rapid induction of anesthesia were described, as was the safer method of administering ethyl chlorid, *i. e.*, by drop method on an open inhaler instead of by spray with a closed mask. Intravenous, intramuscular, intratracheal and high intraspinal anesthesia were dismissed as impracticable and dangerous.

Nitrous oxid-oxygen anesthesia and analgesia were described and advantages enumerated. For anesthesia the advantages are quickness, lessening of stage of excitement, little or no postanesthetic vomiting, slight risk of bronchitis, pneumonia, shock or renal irritation. For analgesia, greatest advantage lies in its use in dental surgery and minor surgery. Spinal anesthesia with stovain and tropococain was described and its value pointed out.

Discussion: Dr. C. G. Strickland spoke of successful and satisfactory administration of spinal anesthesia by Dr. Gamon in several of his major abdominal cases, one a nephrectomy.

Dr. H. A. Dunn spoke against preliminary morphin, an additional poison for elimination which in itself retards elimination and bowel function following operation. Many advantages claimed for preliminary morphin may be obtained without it by proper administration of ether.

Dr. Wallace R. Hunter read his preparation of a proposed act creating a department for the suppression of vice and the control of diseases arising therefrom and defining its powers and duties. The important points embodied in this act in abstract form are: Appointment by the Governor of a salaried vice commissioner and nonsalaried advisory board, the vice commissioner having powers granted parallel to health commissioner of state in issuing subpoenas and warrants and for carrying on educational crusades directed toward the suppression of vice; the making of venereal diseases reportable to vice commissioner in suitable form by physicians, surgeons, dentists and druggists.

After free discussion by members and visitors present, recommendation that such an act be proposed received the unanimous vote of the society. Since the meeting the above act has been proposed by Senator Henry A. Clark.

Harrison A. Dunn, Reporter.

LACKAWANNA—March.

A good attendance greeted Dr. Godfrey R. Pisek of the New York Postgraduate Medical School, March 4, when he read a paper on "Unexplained High Fevers in Children." He preceded his paper with a lantern slide demonstration of reproductions of Röntgen ray plates, the first series of pictures showing normal gastrointestinal tract of infant and a normal digestion of bismuth meal. Second series showed faulty digestion of a child suffering from pylorospasm, observation at intervals of about one hour for first twenty-one hours having been made. These plates, taken with subjects in erect position, the anatomical positions were well portrayed as were the physiological processes of digestion. Advantages gained for diagnostic purposes in internal medicine and the rapid approach of an era of great advancement in this particular line were dwelt upon. He gave as an illustration the case of pylorospasm and the difficulty of diagnosing this condition correctly previous to use of *x*-ray; also that many cases of unexplainable high temperature in children are doubtless due to this cause.

Dr. Pisek took up various phases of obscure high temperatures, dividing those that are most apt to cause confusion, into three main groups: (1) Those in which the diagnosis may be cleared up by a thorough physical and clinical examination; (2) those in which the disease is in its early stages and has not developed sufficiently, and in which the diagnosis is made mainly by a process of exclusion; (3) this group is made up of diseases less commonly seen, though important from the standpoint of treatment.

While diagnosis is still in doubt in these conditions of obscure fever, they very often masquerade under the blanket diagnosis of influenza or malaria. These two terms cover a multitude of medical sins of omission. Very often they are made without aid of laboratory evidence, and are given to family only to supply a long-felt diagnostic want. Unfortunately, medical science does not profit by this course, and it would be better if we did not so delude ourselves at times, but stamp them (at least in our own minds) as indeterminate in character or as indicating an infection of unknown origin.

In the first group, otitis media is placed at the head of the list of offenders because it is so frequently unrecognized until a discharge is present. The essayist remarked casually that he would rather go to the baby's bedside without his stethoscope than without the necessary instruments for an ear examination. Empyema is frequently unrecognized clinically. possibly because the aspirating needle is not more generally used. Particular attention should be directed to infections of the urinary tract especially in female children in whom the mode of infection is by the ascent of the colon bacillus, and prolonged high remittent fevers, frequently attributed to typhoid fever or malaria, result. Malaria is readily recognized by a careful blood examination. If the urine is normal, if the ears are negative and the blood is sterile, think of an infective process involving the heart. Recent research work aided by the use of the polygraph, confirms the view that it is the myocardium and the pericardium which bear the brunt of the infection, and that these are the important structures to be considered. The practical bearing is to carefully auscultate for pericardial friction rubs and evidences of myocardial changes which may be present with or without rheumatic manifestations. These, if found, will account for a high, unexplained fever in its early stages and is more gratifying than to find the sequence at some time later in a well marked valvular murmur. Glandular fever though not common may prove puzzling and may usually be diagnosed by the finding of slight enlargement of the sublingual glands at the angle of the jaw.

In the second group are tubercular meningitis, typhoid fever, onset of the exanthemata, acute poliomyelencephalitis. In the third group are frontal sinusitis in childhood, pharyngitis in infants, obscure abscess formation and intestinal infections of a latent type. Space will not allow of a full report of this most interesting paper.

The regular business meeting of the Lackawanna County Medical Society was held March 11, President Corser presiding. A number of interesting cases were presented by Dr. E. G. Roos.

The society listened to the reading of the minutes of the last business meeting and ordered various and sundry bills of current expense paid. Dr. F. L. VanSickle reported that the bill regulating the practice of midwifery now before the house of legislators had passed that body and would, he thought, be favorably considered by the various other bodies and soon become a law.

This society showed its standing as a progressive organization and its interest in local civic conditions by passing the following resolution introduced by Dr. D. W. Evans:—

"*Resolved*, That inasmuch as it is the sense of this meeting that the mine cave commission has failed to accomplish the work for which it was appointed, namely, to propose legislation that will afford surface protection to property owners we therefore place ourselves on record as favoring the passage of the Davis mine cave bill by the state legislature, in so far as it provides for surface protection and that we approve of the action taken by City Solicitor David J. Davis, and that we communicate with our representatives at Harrisburg and that a copy of these resolutions be furnished the press of the city."

March 18, Dr. John D. Wilson on "Manufacture, Standardization and Dosage of Bacterial Vaccines" took up consideration of various ways by which active immunity may be produced by incorporation into body (1) of living fully virulent bacteria, (2) of living bacteria of diminished virulence, (3) of dead bacteria, by use (4) of bacterial products secreted or excreted during the life of the microbes, (5) of certain microörganisms or their products which are not associated in any way with the production of the specific infection. Each classification was fully discussed. Vaccines for various diseases of man are rapidly taking their place among reliable armamentarium of specific medication. Among those at present giving most satisfactory results are vaccines against bubonic plague, Asiatic cholera, and typhoid fever, immunity from which may be established for varying periods up to a year or more.

The most modern methods of manufacture of the different forms of vaccines, bacterins, serums and phylacogens as well as their standardization and dosage was reviewed.

Dr. Lucius Kennedy reported some cases and his results from use of vaccines and bacterins. His experience with bacterins in gonorrhea, especially of the chronic form, were uniformly good. Vaccines in treatment of furunculosis had given the most satisfactory form of treatment he had ever found.

Use of pulmonary mixed bacterins of certain manufacturers, or as it is now known the bacterins of influenza, has given excellent results in patients suffering from repeated catarrhal colds; an injection is given at intervals of from three to four days for four injections. The use of the so-called phylacogens seemed primarily toxic and void of any good results.

The discussion of these papers was opened by Drs. Fox and Newbury and participated in by several others.

At the meeting of March 25 Dr. Lee M. Hurd, New York, presented "The Killian Frontal Sinus Operation and Its Indications." Frontal sinus *per se* is seldom infected, unless its neighbor, the ethmoidal cells, are infected as well. In all cases I have opened externally, the anterior ethmoidal cells are involved equally with the frontal sinus, and usually the entire ethmoidal labyrinth. Treatment directed to frontal sinus will be of no avail if ethmoidals are neglected. Frontal sinus may clear up if infected ethmoidals can be cured; this, intranasally. In a small per cent. of cases, the external route is the route of necessity for reaching nasal accessory sinuses in most surgical way.

Hard and fast rules of indication are difficult to give, and harder to follow. Local symptoms, blood count, general symptoms and condition, and information revealed by x-ray plate must be considered.

External operation is rarely indicated in truly acute cases; then, only where there is extension of infection into orbit, (swelling, edema of lids, etc.), or where there is marked rise of temperature or intracranial symptoms appear. I do not consider pain and tenderness, no matter how severe, without much rise of temperature, sufficient indication to open an acutely inflamed sinus. Neither is tenderness sufficient indication, but severe pain, tenderness, and marked rise of temperature are sufficient reasons to open an acutely infected sinus.

Technic of this operation is so graphically described in Dr. Hurd's paper that I think it worthy of reproduction here.

Always operate from the head of the table. First make several cross cuts, by which, later, the wound can be more accurately closed. The incision starts on the side of the nose, slightly below level of inner canthus and well up side of nose, toward anterior surface. This is to avoid the plexus of nerves about the inner part of the orbital brim, and, also, the resulting cicatrix shows less here than farther down on the nose and cheek. The incision extends up into the eye-brow as far, externally, as the x-ray plate shows the sinus to extend. At first, the knife is driven to the bone and brought along until near the eye-brow, when the pressure is eased up, and only the skin of the eye-brow is incised. Second, skin of forehead is pulled upward so incision will lay over superior line of bony bridge that, later, will be made. Here the periosteum is incised from near the nasal bone, parallel with the orbital brim, and about one fourth inch distant, a little farther than the sinus is known to extend. This outlines upper margin of bony bridge. Periosteum is elevated over a slightly greater area than the dimensions of sinus; under the elevated periosteum, gauze, saturated with suprarenal solution, is packed, to remain while lower outline of bridge and inner boundary of the ethmoidal exposure is made by finding previous incision in periosteum on side of the nose, and extending it outward just along orbital brim, as far outward as it is expected the floor of sinus extends. Periosteum is first elevated at lower end of incision where it is easily detached, and carried backward till lacrymal groove is fully exposed, then orbit periosteum is elevated just above the groove, backward for an inch or more until the anterior ethmoidal cells are felt, and elevator is carried upward behind attachment of trochlea, and this is detached from edge of bone with edge of a sharp curet from behind forward. All this has been done under disadvantage of an annoying hemorrhage. Pack cavity with gauze saturated with suprarenal solution, and return to anterior wall of frontal sinus. Hemorrhage here will have ceased, and anterior bony wall is removed, first by outlining bony bridge with Killian's V-shaped chisel, then remove the entire anterior wall, searching, carefully, until all recesses have been uncovered and lining membrane removed from every part of the sinus, special care being given to posterior side of bridge and lower inner part of sinus. Now go below, and make bony grooves that outline bridge and ethmoid route.

First make a groove in the frontal process of superior maxilla from nasal arch to lacrymal groove before backwards across the grain of the bone, then start a groove at right angles to this cross groove, upward along the articulation of nasal bone and frontal process of maxilla, then outward, along orbital base as far as floor of sinus extends. The shell of bone is removed with chisel and forceps, exposing the lower part of the frontal sinus, frontal nasal duct, and anterior ethmoidal cells. Bony orbital wall is removed as far as it is in relation to the ethmoidal cells, not only to give access to deeper cell but also to give a perfectly healthy external surface to what was the ethmoidal labyrinth. About an inch in anterior ethmoidal, vessels will be encountered as they emerge from the orbit into the superior part of ethmoidal cells. There is occasionally an ethmoidal cell wrapped around these vessels, and its removal requires care not to wound these vessels.

Injected ethmoidal cells with frontal disease should be removed entirely, not simply curetted. If the sphenoid is diseased it is entered, and anterior wall removed, balance of treatment can be done better at a later date.

Gauze is lightly packed along operative tract and brought out of nose. Finally, the wound is accurately closed with metal clips, and wet boric dressing applied like padding of a saddle so there will be no pressure upon incision and bridge. Gauze and clips are removed in twenty-four hours, and dressings, usually, in forty-eight hours.

This, like the radical mastoid operation, depends, mainly, for success on perfect technical detail, portions of membrane, and again, a few small ethmoidal cells left behind, spell failure. A careless opening and closing of incision means disfigurement.

Discussion was opened by Dr. J. J. Sullivan, Jr., who also presented a case of recent operation by the Killian method.

Harry W. Albertson, Reporter.

LANCASTER—March, April.

The Lancaster City and County Medical Society met March 5, with President Miller and thirty-seven members responding.

A paper by E. J. Stein on "Tonsils and Adenoids" was read. Tonsils and adenoids are lymphatics which receive drainage from nose and throat and then take care of infections; the tonsils are the more important. Adenoids do more harm than good and give the following symptom complex: Dislike of food, poor appetite, emaciation, gastrointestinal symptoms, nasal discharge, chronic cough and mouth breathing. There is a theory that bottle-fed babies are more prone to adenoids than breast fed. Safe rules for removal of enlarged tonsils and adenoids are that they should be removed if child has two or more attacks of tonsillitis in a winter, gets head colds easily, has cervical adenitis, any ear complications, if the tonsils are pale and friable, if there is a postnasal discharge, or if there are gastrointestinal symptoms or a hacking cough.

Tonsillectomy is performed by snare or tonsillotome. Choice of instrument is personal, the only requisite being thorough removal of tonsil. Operation, while not serious, should never be performed in the patient's home. Medical treatment of enlarged tonsils and adenoids was condemned. While it is true that after puberty enlarged tonsils and adenoids decrease, the evil effects remain.

Drs. Roebuck, Kinzer, Lehman, Appel and Rohrer discussed the paper.

Dr. C. P. Stahr spoke on "Certified Milk." Although Lancaster's milk supply is above the average, there is a demand for certified milk. Certified milk is produced under the best hygienic conditions; it is tuberculin tested, examined chemically and bacteriologically, after which, if requirements are fulfilled, dairyman is allowed to certify it. The Milk Commission is composed mostly of physicians, and there is a National Association. The Local Commissions must meet requirements of National Commission. Dr. Stahr told of milk standard of the National Association which is bacterial count 10,000 per c.c., definite sugar and proteid, herd contains only healthy cows, milk must be cooled to 45° F. and reach consumer before changes have occurred. Chief uses of certified milk are for clinical purposes and infant feeding.

Drs. Apple, Alleman and Stein discussed paper, after which the president appointed a Milk Commission.

Dr. Breneman showed several *x*-ray plates of interest, one a benign cyst of humerus, osteosarcoma and tuberculosis of bone.

The regular monthly meeting of the Lancaster City and County Medical Society was held April 2, with President Miller and thirty-two members present.

Dr. Frank Alleman read a paper on "Shock, from a Medical and Surgical Standpoint." There is a great deal of discussion over what shock really is. Crile thinks it is a depression due to failure of vasomotor centers. In his opinion the blood vessels lose their tone, the blood becomes coagulated and the heart stops beating because it has nothing to do. If this is true it can be readily seen why drugs which stimulate the heart fail. Theoretically saline infusion intravenously would seem ideal but practically it failed. Solution of adrenalin chlorid temporarily overcame shock and bandaging the extremities and elevating the foot of the bed sent the blood to the internal blood vessels and kept up blood pressure. Intravenous saline infusions are indiscriminately used, in severe shock they are worthless, but in toxic conditions they do flush the kidneys and in hemorrhages it is far preferable to use sodium and calcium preparations at the same time, keeping up the pressure of the coronary vessels. Soluble salts of potassium and calcium are responsible for the heart beat. Crile says that in shock you should give the infusion into an artery and toward the heart, this increases the intracoronary pressure and the results are better. In shock the peripheral vessels are contracted rather than dilated, but surgical shock is accompanied by lowered blood pressure. It is in raising this lowered pressure that adrenalin serves its temporary use. There is a fall of blood pressure in many toxic conditions which corresponds in a measure to surgical shock. In acute infections it is vasomotor failure that causes death rather than heart failure. Drugs to stimulate the vasomotor centers are not a success but cold air raises blood pressure decidedly in these conditions.

Dr. J. L. Atlee said that in the treatment of shock it was very essential to have the foot of the bed elevated to a proper height. In private practice it is hard to get sterile water for intravenous injection so it is better to inject about four quarts by the bowels. Bandage the limbs from the toes up to the groins and from the fingers to the axilla or put a tight bandage about the axilla and the groin to keep the blood in the extremities. In severe post-partum hemorrhage it is advisable to introduce the hand into the uterus and control bleeding by pressure on the abdominal aorta. Morphin, atropin, strychnin and strophanthus have all been used in shock.

Dr. Day reported two fatal cases of pneumonia in a series of ten cases without any specific treatment. He does not believe the results of pneumococcic serum show anything definite and for that reason did not use it in any of his series.

Dr. Atlee reported two face presentations; in one, the chin was in the hollow of the sacrum presenting a dead lock and the child was delivered by Cesarean section. In the other, the chin was anterior and the child was delivered spontaneously. He emphasized the fact that there was no danger in moving serious obstetrical cases to the hospital.

Walter D. Blankenship, Reporter.

LEBANON—March, April.

The Lebanon County Medical Society met in Sedgwick Hall, Lebanon, March 11, at 2:30 p.m. Dr. George M. Boyd, Philadelphia, lectured on "Some Surgical Phases in Obstetrics." Dr. Boyd considers Cesarean section a grave and serious operation, one that is too often used as a means of easy retreat. Valuable efforts of nature are too often curtailed by surgeon's knife. In large majority of cases Cesarean section is not to be performed when there is a still child. Craniotomy is altogether legitimate and is becoming the most popular procedure when child is dead. In referring to causes of these operations, the contracted pelvis is probably the most common. In diagnosing this condition the pelvimeter shows its merit. Both external and internal measurements are made with it and yet pelvic deformity is not the easiest to detect. Of course in multipara one can be greatly guided and helped by past history. One of the hardest problems to solve is what to do and when to do it. If after waiting twelve or fifteen hours the head is still high, then is the time to proceed. Question of inducing premature labor was deftly handled. Just to determine precisely the period of gestation and thus avoid complications of an induction, either too late or too early, is at times perplexing. Introduction of a rectal catheter or a bougie is common method, danger in either being rupture of membranes.

Another method of overcoming difficulties of contracted pelvis is pubiotomy; the Dönderlein operation was described. A temporary enlargement of pelvis is obtained by severing pubic bone to one side of symphysis by means of a Gigli saw. While operation is popular in Europe it has not found marked favor in America. Consequent dangers are those of hemorrhage, rupture of bladder, faulty union with a future faulty gait.

Many views were thrown upon the screen, the reductions from *x*-ray photographs. They graphically illustrated the contracted pelvis, contracted in certain dimensions as well as generally. Pictures were also shown of osteomalacia; rickets; monsters; forceps in position for delivery; pubiotomy, early and late; fractures of skull, femur, clavicle, humerus, and other bones; lithopedion and dicephalic monsters.

The Lebanon County Medical Society met in the court house, April 8.

Dr. Alfred S. Weiss read a paper on "Backache and Its Clinical Significance." He claims that more patients suffer with backache than any other complaint. To the gynecologist, all backaches are in his realm; to the gastrologist they all come from the stomach and to the neurologist all the blame is laid on the nervous system. There are three classes of backache, acute, subacute, and chronic. Under acute, Dr. Weiss placed lumbago foremost and traced its etiology to gout, sprain and exposure. Sacroiliac troubles also were placed with the acute. These troubles are very common, due largely and lately to the automobile. It is often very difficult to diagnose from lumbago and is primarily caused by a lowered tone of the ligaments, allowing a slipping of the joints. The backache following a continued prone position in bed is due to the same cause. Tight corsets that exert undue pressure come in for some of the blame. Perirenal abscess, acute spondylitis and shingles were placed under first classification. Under the subacute, he placed the uncured acute fatigue, uterine and neurotic. Dr. Weiss asserted that the pelvis is rarely at fault though this source of trouble should always be investigated. In discussing the neurotic type he believed that nerve exhaustion played the principal rôle and made the startling statement that pelvic disorders as a cause for insanity are rare. In the causes for chronic backache he mentioned pressure, aneurysm and Pott's disease.

In the discussion the following were assigned as common causes of backache; viz., kidneys, myelitis, locomotor ataxia, gonorrhea, typhoid fever, flat foot and hemorrhoids.

George R. Pretz, Reporter.

LUZERNE—March, April.

At the meeting of the Luzerne County Medical Society, held March 12, the subject of "Salvarsan and Neosalvarsan" was discussed by Dr. Louis Edwards. The present tendency is to administer the drug intravenously, the method approved by Ehrlich. These drugs are indicated in treatment of primary, secondary and tertiary syphilis, recurrent fever, and some of the tropical diseases. Contraindications are serious circulatory disturbances, advanced degeneration of the central nervous system, fetid bronchitis and cachexias other than luetic. Special care should be used in the selection of cases where ophthalmic disorders exist, and also in advanced tabes, extreme debility and emaciation.

The dangers from intravenous injection are stated as (1) embolism from air or clot, (2) syncope, (3) convulsions or collapse, especially in paresis and cardiovascular disease. In primary stage it is advised to make a Wassermann test at end of forty-eight hours and again at five days; if positive, drug to be repeated. Weekly tests should follow, a positive reaction always being followed by a repetition of dose.

In secondary stage four injections are usually required and may be given at intervals before Wassermann test is made.

In tertiary syphilis repeated doses, controlled by the blood tests, are required.

Both preparations are efficient but neosalvarsan more easily prepared. The treatment should be combined with mercury and the iodids.

At the meeting, held March 26, Dr. G. W. Guthrie read a paper entitled "Should the Gangrenous Appendix be Removed? When? How?" On July 17, 1897, Dr. Guthrie performed probably the first operation for appendiceal abscess in Luzerne County, although at that time the condition was known as perityphlitis the etiological part played by the appendix not having been recognized at that date.

Dr. Guthrie states that the method of handling appendicitis accepted by most surgeons is (1) immediate removal of the appendix within the first twenty-four or forty-eight hours, where there is no evidence of trouble outside the appendix; (2) after forty-eight hours if symptoms of peritonitis are present, the method advocated by Ochsner, namely absolute peritoneal rest, no food or liquids of any sort by mouth, normal salt solution by rectum and opiates for pain when necessary. Gastric lavage in case of vomiting and locally, Stanton advises the large moist boric acid compress instead of an ice cap.

After five to seven days he operates for the resulting abscess, always endeavoring to remove the appendix.

At the meeting held April 9, Dr. Stanley Freeman presented "The Astragalus and Its Importance in Pott's Fracture." Dr. Freeman's contention is that the astragalus is the chief factor in production of Pott's fracture, and that its improper reduction when subluxated outwards is the chief cause of a subsequent painful joint.

Pott's fracture occurring as the result of a sudden abduction of the foot, the internal lateral ligament is ruptured, or a portion of the internal maleolus is torn off, the astragalus is forced against the external maleolus (fibula) and is dislocated outwards and occasionally posteriorly, the fibula being fractured from one and a half to three inches above the tip of maleolus. The astragalus which in the normal joint transmits the body weight from the tibia directly through its center to the os calcis, being laterally displaced, transmits this weight to one side of center, thus placing undue strain on several ligaments of foot (internal lateral, calcaneo-astragaloid, etc.) causing painful joint.

In reduction of this fracture he advises anesthetization of patient, extension and counter extension, slight abduction to free broken fragments and to pull astragalus away from the articular surface, forcibly lifting foot forward and flexing, to correct posterior dislocation, then forcible inversion, pressing astragalus over against tibia.

He has obtained the best results by maintaining foot in the "Dupuytren's position," by means of a fracture box, padded posteriorly to prevent any backward dislocation of the astragalus, with triangular lateral pads so arranged that the proper inversion of the foot is maintained. Herbert B. Gibby, Reporter.

LYCOMING—May.

The feature of the May meeting of the Lycoming County Medical Society was a symposium on cancer. Dr. R. F. Wall of Scranton presented a paper on "The Early Diagnosis and Treatment of Cancer." Dr. George D. Nutt followed by discussing "Cancer of the Breast"; Dr. H. J. Donaldson, "Cancer of the Uterus"; and Dr. W.N. Shuman, "Cancer of the Face, Lip and Skin." The meeting was preceded by a surgical clinic at which Dr. H. J. Donaldson performed an appendectomy and a vaginal hysterectomy. Thirty-five members of the society were present and two visitors, Drs. R. F. Wall of Scranton and C. G. Hayes of Panama, a brother of the president of the society.

The interest and attendance has been above the average so far this year. If the time and energy that President Hayes is putting into the society will bring results, it will be the best year the society has experienced for a long time. Dr. D. J. McCarty of Philadelphia, at the January meeting made an address on "The Diagnosis and Treatment of Functional Neuroses." At the February meeting, Dr. F. L. VanSickle, district councilor, addressed the society on "Some of the Advantages of Medical Organization." Dr. F. P. Ball of Lock Haven at the March meeting discussed the subject of "Intestinal Obstructions." At the April meeting Dr. Charles H. Frazier of Philadelphia favored the society with a paper on "Certain Problems and Procedures in Surgery of the Spinal Column," illustrated with stereoptican slides. The following papers were presented by members of the society beginning with the year: "A Year's Experience with Spinal Anesthesia" by Dr. H. J. Donaldson, "Tumors of the Female Breast" by Dr. G. D. Nutt, and an essay, "By the By," by Dr. W. B. Konkle.

W. F. Kunkle, Reporter.

MIFFLIN—April.

The Mifflin County Medical Society met in Lewistown at the Crystal Café, April 3, at 11 a.m., with twelve members present and Dr. C. H. Brisbin presiding. A resolution was passed favoring the bill before the Legislature for the organization of a state department for the suppression of vice, with a vice commissioner and an advisory board; the society shall request the local representatives and senators to support the bill.

Dr. F. A. Rupp read a paper on "Vaccine Therapy." There can be no doubt that autogenous vaccines would form the most ideal therapy; but autogenous vaccines may never be practical for the general practitioner, and he must therefore depend on the stock preparations from a reputable laboratory, a laboratory that shall frown upon the present tendency of manufacturing vaccines and serums for revenue only. The general practitioner does not gain knowledge on this subject from advertising pages of a second or third rate medical journal nor from all too frequent visits of the loquacious, all-knowing salesman. Not having time nor opportunity to thoroughly investigate such subjects as vaccine therapy, either in laboratory or by reading a great mass of technical literature, every medical practitioner should read at least one medical journal, in the pages of which he can have thorough confidence. *The Journal of the A. M. A.*, whose pages, both advertising and literary, are so ably censored by the Council on Pharmacy and Chemistry, is certainly such a journal, and if I learn through its pages that the much vaunted, widely newspaper heralded Friedmann's cure for tuberculosis is only another delusion and wily financial snare, I shall not employ such a cure in my practice; knowing, however, that if Dr. Friedmann does eventually prove what he claims for his "cure" *The Journal* will gladly retract any derogatory remarks previously made against it or any other cure.

If knowledge of the pathogenic microorganisms causing any particular disease is the *sine qua non* for the production of a serum for that disease, what can be said of such a shotgun serum as the rheumatism phylacogens, and what must be thought of manufacturers placing them upon an already overburdened serum market? We will not deny the fact that physicians have obtained apparently good results from the use of phylacogens, but most brilliant results have been obtained from sodium salicylate and the alkali treatments long before the birth of phylacogen, and salicylates and the alkalies will survive to officiate at the death obsequies of phylacogens, unless their preparations be based upon the sound pathological principle that requires their elaboration in some way from the bacteria causing the disease.

It seems a rather remarkable commentary upon the subject of vaccine therapy, that out of the whole category of vaccines and serums there is practically only one specific cure, diphtheria antitoxin, and the specific prophylactics, for smallpox, typhoid fever and tetanus.

F. A. Rupp, Reporter.

MONTGOMERY—April, May.

At the meeting of the Montgomery County Medical Society held at Charity Hospital, Norristown, April 2, Drs. Swalm and Potter demonstrated the method of examining stomach contents and microscopic examination of feces. Dr. H. F. Pyfer read a paper on "Adenoids and Tonsils." He showed charts giving location of adenoids and made the following points: (1) When placed high venous flow is obstructed causing backache and mental dullness; (2) when forward, cause catarrh of sinuses and deviation of septum; (3) when spread laterally, block eustachian tubes, causing ear infection; (4) if large and soft, they produce eye affections and are "food" for germs. Dr. W. J. Wright opened discussion and made the point that adenoids should be removed as early as possible.

At the meeting of April 23, Drs. Swalm and Potter demonstrated methods of staining germs and differentiating the more important ones. Dr. Leon Brinkman read a paper on "Hemorrhoids, Fistula and Fissure in Ano." He said dilatation should be thorough in fissure, and nearly always cures, with the exception of the tubercular fissure, which spreads out over a large surface. Anal fistula is caused by an abscess. Complete division of all structures down to fistula is necessary for a cure. The old theory regarding incontinence of feces if the sphincter is divided in more than one place is an error. Hemorrhoids are due to constipation. There are two kinds, hemorrhagic and columnar. Cautery is best treatment. Ligation and sloughing may cause infection and is more painful.

The regular meeting of the Montgomery County Medical Society was held at Charity Hospital, Norristown, May 7. Drs. Swalm and Potter opened the meeting with a demonstration on "General Bacteriological Methods." They demonstrated the different culture media and the growths of the different germs in each. The examination of milk and the principles of vaccine treatment were then taken up and explained. Dr. David Nathan presented an excellent paper on "Hydrotherapy" which was freely discussed by the members.

The meeting of May 26 was held at the State Institution for Feeble Minded and Epileptics at Spring City upon the invitation of Superintendent Carey. The Chester County Society was also invited and about twenty were present. Dr. Carey and his assistants took the visitors through the many buildings, demonstrating the important cases. About 4 P.M all met in Assembly Hall and the patients gave an entertainment which was followed by a lunch. A most enjoyable afternoon was spent.

Edgar Stanley Buyers, Reporter.

NORTHAMPTON—May.

The Northampton County Medical Society met May 16 in the Public Library at Easton, with nearly fifty members present.

Dr. James K. Young of Philadelphia, in an interesting paper on "Recent Advances in Orthopedic Surgery," gave a brief résumé of the field in which the greatest improvements have been made in treatment in the last few years. His talk was illustrated by lantern slides, showing *x*-ray as well as the ordinary photographs.

W. P. Walker, Reporter.

PHILADELPHIA—April.

The Philadelphia County Medical Society met April 9, at 8:30 P.M. President Codman in the Chair.

"Case of Congenital Diffused Lipoma of the Foot and Leg; with Exhibition of a Patient" was presented by Dr. J. Torrance Rugh. The patient is a girl aged six and one half years with good family history. At birth there was marked enlargement of the second and third toes of right foot with a mass of fat underneath the front portion. There was no pain or tenderness and skin was normal in color and consistency. At six months the two toes were removed without difficulty. At fifteen months a large mass of fat was dissected from under surface of the foot. The patient developed scarlatina in four days and part of flaps sloughed but healing took place eventually in two months. At twenty months enlargement of calf began of the same type as in foot. X-ray taken at six years showed no enlargement of bony structures. Specimen taken for examination from the foot mass showed a typical lipoma with no evidence of fibromatosis. Removal of masses will be attempted but failure with subsequent enlargement or recurrence of the mass will call for amputation above the margin of the upper mass.

"The Nervous Symptoms of Pelvic Disease" was presented by Dr. F. X. Dercum. With the coëxistence of pelvic disease and neurasthenia the pelvic symptoms may be more readily recognized by the patient and therefore become more prominent, because in neurasthenia the reaction of the nervous system to abnormal or pathologic impressions is greatly increased. In hysteria incautious remarks and injudicious statements by a physician may be very injurious. The suggestion of an operative procedure is accepted readily and sometimes a long series of operations has thus its beginning. It is hardly necessary to state that no relation exists between pelvic disease, epilepsy, chorea and other nervous diseases. The nervous symptoms which can be truthfully ascribed to pelvic disease are pain in the pelvis, pain referred to back, to top of head, to hips and to thighs, with associated signs of general ill health. These symptoms can not be dignified by the name of a nervous disorder, but are merely part of the symptom-group of the pelvic disease. Operation should be for pelvic condition itself and not for relief of an incidental nervous symptom. Operation is done just as we set a broken leg in an insane man, not because he is insane but because the leg is broken. It is important in considering operations upon neurasthenics to bear in mind that these patients are excessively sensitive to nervous shock. In such cases the operation, if not urgently indicated, may with advantage be preceded by a period of rest.

"A Modification to Obviate the Defects of the Newer Methods of Repairing the Pelvic Floor" was presented by Dr. Barton Cooke Hirst. Injuries of the birth canal constitute more than half of all the diseases of women. All over the world there is a tendency to discard the older operations on the perineum and posterior vaginal walls, such as Hegar's and Emmet's, and to prefer the transverse incision with dissection of the rectovaginal septum and to expose the levators and deep transverse perineal muscle, a method developed from Lawson Tait's original technic. The reasons for this unanimity of opinion would appear to be the failure of the older operations to expose and directly unite the muscles injured in parturition; the failure to restore to the pelvic floor, the support and contour it possessed before childbirth. The newer technic, however, is not yet perfected. With a clear understanding of the injuries of the pelvic floor it is easy to devise a technic that shall actually expose all the muscles at the site of their original injury and that shall reunite them in their original anatomical relations. The modern transverse incision of the perineum, the rectovaginal dissection and the junction of the injured muscles in the middle line do not accomplish either of these objects.

It is possible to restore each one of the four muscles of the pelvic floor to its original condition as in a nulliparous woman by the following technic. Incisions are made in the perineum and vagina as shown in the diagram. Flaps are then cut away and an incision is made on each side through the pelvic fascia to get at the levators and deep transversus perinei. These muscles are then joined. Finally the raw surfaces are united over the muscles as in the old Emmet operation, the perineal stitches uniting the superficial transversus perinei and bulbo cavernosus muscles where they are inserted in the perineal body. I am convinced that however this technic may be modified, the principles underlying it must be adopted in the successful operation of the future for the repair of the pelvic floor after childbirth.

WASHINGTON—April.

The Washington County Medical Society met in the society's rooms, April 8, at 2 p.m., with over forty members in attendance.

Dr. Lynch, on "The Rôle of Insects as Disseminators of Disease," while brief was very interesting and in conclusion stated that his hope was that the day would come when it would be a disgrace for a housekeeper to harbor a fly, and that flies could only be found as preserved specimens in our museums.

Dr. T. D. Cashman read a paper on "Amebic Dysentery." From the fact that the disease is not one with which the practitioner in temperate climates is acquainted he stated that his paper was only a compilation.

Dr. Sargent was present, just having arrived from three months spent in the New York Postgraduate, and gave an entertaining talk. While away he had the privilege of seeing Dr. Friedmann hold his first clinic in New York, and stated that he was not convinced that Friedmann has the specific, although his opinion is that the doctor is honest in his belief. One thing which impressed him was his lack of the most common respect for cleanliness. When Friedmann made his appearance he took from one pocket an ordinary glass hypodermic syringe wrapped in a piece of paper, and from another pocket he produced a small paper which when unwrapped showed two needles for his syringe. Fitting the needle to the syringe he drew five minims of the serum into the barrel of the syringe, rolling up the sleeve of the patient on the table he injected two and one half minims of the solution into the arm and next two and one half minims into the gluteal region, then drawing the proper amount of serum into the same syringe he was going to proceed to administer it to patient number two, but some of the hospital officials kindly advised him that such practices might be tolerated in Germany but while here he would have to observe at least some of the minor rules of asepsis, and for the remainder of the clinic he used a sterile needle and sterilized the point of injection with iodin. The bottle containing the serum was constantly held either by his brother or his assistant, no one was allowed to get their hands on it for an instant, as they seemed to be in constant dread of some one getting away with their secret.

Dr. Sargent expressed the opinion that, from the observation of the patients following the treatment, psychically they were better but there was no apparent physical improvement, that as yet he has established nothing in his favor, that the medical profession of New York had taken the only justifiable stand in his case, and that the censure given the medical profession by the lay press of New York and the country at large was uncalled for and unkind.

J. W. HUNTER, Reporter.

WAYNE—MAY.

The annual meeting of the Wayne County Medical Society was held at the Hospital for Criminal Insane at Fairview, May 22. Upon our arrival we were shown through the buildings and then partook of a fine dinner. The routine business session was then held, when all the old officers were reëlected. Two new members were elected thus making every physician in Wayne County a member of the society.

F. A. LOBB, Reporter.

YORK—APRIL, MAY.

The York County Medical Society met April 3, at 1 P.M. Dr. Fackler called the meeting to order and twenty-five members were present. Dr. Eisenhower read first quarterly report of treasurer and announced a balance of $153.08 in treasury.

The subjects of "Surgical Tuberculosis" and "Anesthesia" were treated in a most practical manner and a most spirited discussion took place.

The resignation of Dr. Louis Weaver was accepted. Dr. A. A. Long was unanimously elected to fill the office of first vice president, which was made vacant.

The committee on Red Cross Medical Work (A. M. A.) was appointed: Drs. Fackler (*ex-officio*), Comroe, Alleman, Gable and Long.

The York County Medical Society met in the Colonial Hotel, May 1, at 1 P.M., Dr. Fackler presiding and forty-five members present.

Dr. George Walker of Baltimore, in an address on "Tuberculosis of the Genitourinary Organs," stated that ninety per cent. of all individuals after thirty years of age have tuberculosis, which usually begins between the ages of two and fifteen years and remains latent until an opportunity is afforded for it to become active. He exhibited many pathological specimens, and excellent drawings illustrating the results of his own experimental work in producing primary tuberculosis in various portions of the genitourinary tract by inoculation of the tubercle bacillus either in culture or by means of diseased tissue. Tuberculosis of the glans penis is rare, and only five cases of primary tuberculosis of this organ are reported in literature. It occurs more frequently from infection secondary to the ritual circumcision, and from coitus. There is no isolated case of primary tuberculosis of the urethra in literature. Tuberculosis of the prostate may be primary; there are fourteen cases in literature, but a number of these are questionable. But it is very frequently the seat of secondary infection from the kidneys above or the epididymis below. Primary tuberculosis of the seminal vesicles is rather rare, there being but few cases recorded. The reverse is true of this infection in the epididymis, where it is quite commonly observed in this primary form, probably for mechanical reasons. In the treatment of this latter, it is important to remember that ligation of the vas is of no avail. Infection in the epididymis nearly always spreads upward, rarely downward, owing to the direction of the peristaltic wave. In tuberculosis of the testicle the treatment should consist in removal of the organ. Tuberculosis of the bladder is never primary and in treatment, the primary focus should be removed. This latter also applies to treatment of tuberculosis of the prostate. Tuberculosis of the kidney is primary in the vast majority of instances, and with modern aids in diagnosis, should rarely be overlooked. The treatment is surgical. Dr. Walker was given a rising vote of thanks and was unanimously elected an honorary member of the society.

A committee of five was appointed to revise the by-laws. An amendment to the by-laws was unanimously adopted, making the annual dues payable not later than March 20, the same to go into effect during and after January 1, 1914.

JULIUS H. COMROE, Reporter.

NECROLOGY.

In Memoriam—Lewis W. Steinbach, M, D.

(The Faculty of the Philadelphia Polyclinic and College for Graduates in Medicine adopted the following minute on the death of Dr. Lewis W. Steinbach, Professor of Surgery.)

By the death of Dr. Lewis W. Steinbach the Faculty has been deprived of the valued services of an able surgeon, whose many years' connection with the college contributed much to its growth and influence.

Dr. Steinbach's association with the surgical department of the Polyclinic began soon after his graduation from Jefferson Medical College in 1880. At that time he received a prize for his report of the Levis surgical clinic at the Pennsylvania Hospital. He thus became known to those medical men who were the founders of the Polyclinic School. He entered its service as a subordinate and because of his characteristic fidelity and earnestness rapidly advanced to the position of professor of surgery. This post he continued to hold with honor until his death on February 10 of this year. For a considerable portion of this time he was president of the faculty.

For about twenty-five years he held the position of attending surgeon to the Philadelphia General Hospital and for even a longer time a similar post at the Jewish Hospital. He was also surgeon to Mt. Sinai Hospital. He was a fellow of the College of Physicians and of the Philadelphia Academy of Surgery; in the latter he served as recorder from 1891 to 1902. He was also a member of the county, state and national medical societies.

Dr. Steinbach belonged to the class of medical men, which by the growth of specialism is slowly becoming extinct. He was, in addition to being a skilled and learned surgeon, an ophthalmologist, and a successful internist with a large private practice. With this successful versatility in medicine he possessed exceptionally delightful personal characteristics. He always stood for good morals, high ideals, and the soundest of personal and professional ethics. He displayed constantly and consistently a spirit of kindliness towards patients, colleagues, subordinates and laymen. Many know how high was the sense of duty which animated his daily life, and how he accepted without question or complaint burdens, which he might easily have shifted to less busy shoulders.

He seemed to be ruled by a marked unwillingness to speak ill of professional brothers, or, indeed of any man. If he could not speak well of a man or action, he usually remained silent.

His activity as a trustee of the Jewish Hospital and his interest in similar charitable societies of his coreligionists was broad and deep; but this minute is perhaps not the place to dwell on other than Professor Steinbach's medical life. Its duties were gracefully, efficiently and earnestly met. His colleagues in this faculty will ever have an affectionate regard for his memory and an appreciative sense of his valuable work done in their midst.

Committee. Morris Booth Miller.
John H. Jopson.
John B. Roberts, Chairman.

In Memoriam—Raymond H. Pillow, M. D.

(The following is a copy of resolutions adopted by the Butler County Medical Society, January 20, 1913.)

Dr. Raymond H. Pillow, born in Whitestown, Butler County, 1854, was the son of the late Captain Henry Pillow.

After preparatory work Dr. Pillow entered Jefferson Medical College, Philadelphia, from which he graduated in 1876. He at once entered the practice of medicine in Butler, practicing continuously for thirty-five years until taken with a lingering illness, in July, 1911. Death came January 10, 1913.

The Doctor was a man of exceptionally strong personality, coupled with a sincerity of purpose and a rare good judgment. He endeared himself alike to the members of his profession, his clientele and the public generally. He held many positions of trust outside of the profession, was sought by his brother practitioners and was always ready and willing to lend a helping hand, in short his professional life was one worthy of imitation.

Resolved, That we, the members of the Butler County Medical Society feel keenly the loss of this valuable coworker that it has pleased God to remove from us, and that we hereby express our appreciation of his faithfulness and efficiency, and

Resolved, That we tender to his wife and family our sincerest sympathy in their bereavement.

Resolved, That we instruct our secretary to give a page in the record book of this society to these memorial resolutions, and to furnish a copy to be printed in the Pennsylvania Medical Journal.

J. C. Atwell.
M. E. Headland.
John V. Cowden.

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ORIGINAL ARTICLES.

RULES AND REGULATIONS GOVERNING EXAMINATION.

BY JOHN MONTGOMERY BALDY, M.D.,
President of the Bureau of Medical Education and Licensure of the Commonwealth of Pennsylvania, Philadelphia.

(Read before the meeting of the Federation of State Examining Boards, Chicago, February 14, 1913.)

In order that I may keep my paper within a reasonable time limit, I shall confine my remarks to a single phase of the subject assigned to me, *viz.*, the character of the examination. It has been said that a practical bedside examination is the desirable type of test that should be employed for applicants for a license to practice medicine, but let us not deceive ourselves in our enthusiasm for the practical examination into forgetting the fact that some parts of a medical man's knowledge are quite as well if not better tested by the written word. The combined examination as conducted by the Royal College of Physicians of London and the Royal College of Surgeons of England, a full description of which was presented to you at last year's meeting by Mr. Hallett, is to my mind preferable to either the written or the practical alone.

The English examination as outlined to us may be practical for such a country as England but I submit that it is not feasible in all its details in the United States at this present time, for very obvious reasons. There can be no doubt whatever that we should drift toward the combined method and, as we are all aware, a beginning has been made in a small number of states. God speed their efforts! Pennsylvania hopes soon to join their ranks and try her hand in the effort to develop an American standard. As time passes, we will have a word to say on this subject, but until the time comes when a feasible and possible working plan can be evolved, adapted to the environment of our "states' rights" and our lack of sufficiently paid administrators, there is no reason that the active aggressive forces of this country should lie supinely on their backs and see a continuation of the farce of qualifying examinations that are at present in vogue among us.

If we are not yet ready and able to step forward to the "ideal," let us at least make the best of what we have in hand and let us make it as near the ideal as possible. Let us make a real test of an applicant's ability to begin the practice of medicine and not a test which is no test at all.

In order to discuss the subject intelligently, let us consider for a moment what the function of the state is in relation to this subject. To put it briefly, the function of the state is to protect its citizens by not allowing an individual to practice medicine without a knowledge of the subject sufficient to render him safe in the practice. This and this alone, I take it, is that about which the state should and does concern itself. Now I submit that a carpenter is not a competent man to build a house simply because he knows the names of his tools and what they are used for. He may know all this perfectly well and yet not be able to make a joint nor square a plane. A medical man may know perfectly the name of a drug or any number of them and equally well know their action, he may know all the muscles of the leg as well as the other anatomical parts of that organ, he may know all the formulas in inorganic chemistry, all the facts of physiology, and pathology, but unless in addition he is taught their application he is a dangerous man to be turned loose on the community and be licensed to practice medicine. This, I take it, is so self-evident that no one will gainsay it. If then this be true, how senseless it must appear, when an applicant for licensure applies, that he be given a test which in the main asks him to name his tools and the use to which they are put and in which no effort is made to test him in the application of this knowledge.

The facts as to the tools and their use is exactly what the schools for the most part, teach and examine upon, each professor in his own branch with but a minimum of correlation with any other branch. And our colleges are more and more doing this type of teaching, because of the fact that we of the state boards are conducting our tests in precisely this manner. In order to prepare the student so that he may pass the state boards, the teachers are devoting the bulk of their time to trying to have the student know every fact known in their particular branch, instead of teaching him a reasonable number of the most important and fully established facts and then thoroughly familiarizing him in all their details with their uses as applied to the actual case at the bedside. If I am in pain and distress, I should vastly prefer a doctor who knew one good reliable pain killer and knew how to use it safely in the particular disease with which I happened to be suffering than any number of men who could dash off every pain killer in the pharmacopeia and give me their full physiological action but who had not been taught which one was adapted to my disease and which could be used therein with safety and certainty, or who was unable to indicate that with which I was suffering. Of what interest is it to me whether or not a man can name minutely the anatomical parts of my leg, if I am suffering with a fracture of the shaft, provided there is any doubt of his knowledge of what holds the fragments displaced and in consequence is not able intelligently to reduce the displacement and properly splint the leg?

It will be said that this is exactly what we would correct by practical bedside examination and that this is the very reason for establishing this system; with all of which I agree. What I do not agree with is the implied opposite, *viz.,* that we can not so approximate this result by a written examination to such an extent as to make a very fair substitute which is far and away above the common type of test now so universally given.

To come at once to the gist of my thought, I conceive that there are two different factors at work in making tests of would-be medical men—the schools and the state; and that their functions are in a measure widely divergent.

The schools teach the medical student the tools and their functions and make throughout their courses frequent tests of advancing knowledge and before graduation final tests as to whether or not the individual's knowledge of these qualify him to graduate. In addition, of course, they give him as much applied work as possible. The schools do not go behind the preliminary requirements for medical study and apply tests of branches taught in these preliminary courses. They do not conduct examinations on mathematics and history and physics and languages. The schools in which this preliminary work is done, have been passed upon by the proper authority, their curriculums inspected, their methods of teaching approved and their work accepted as competent.

And so with the medical schools themselves. The state, through its proper representatives (in Pennsylvania at least), lays down a minimum course of instruction which it applies to all alike and sees to it that these approved courses are maintained. Amongst these requirements is the test by the school of the competent knowledge of the advancing student until such time when they deem his acquirements sufficient to graduate him. And then what? The state says we, having reserved to ourselves the right of the final test of your finished product, will test him *as a finished* product and not as you have already done, test his knowledge of his tools. We will test him as to his knowledge of the use of his tools and incidentally we will be able to observe whether or not he has a knowledge of the tools themselves. We will not go back and perform the functions of the medical school any more than the medical school goes back and performs the functions of the preliminary school. This would be absurd on the part of the state. In other words, it appears to me that the state boards of the country as the situation now obtains are merely duplicating the exact work of the schools, unnecessarily and to the neglect of their own proper functions.

How then do I mean that state boards shall conduct their tests? Broadly I may state that it is not the functions of a state board to examine in any of the fundamental branches of medicine, excepting indirectly. No man can explain how to treat a disease and give reasons for that treatment without a good and safe working knowledge of such tools as physiology, pathology, therapeutics, materia medica, chemistry, etc. If we can so put a question as to sufficiently insure the display of these fundamental branches, why, as is almost universally done, ask direct questions on these branches with little or no correlation to anything else?

Allow me to give a few concrete examples of the type of questions to which I refer and make a critical analysis of them and their results and you may contrast them with the common type of question to which I so much object. The following question was asked in the December examination in Pennsylvania. "*If a woman in labor should suddenly develop the symptoms of collapse or shock, name three causes which may be responsible for the condition. How would you recognize the one present and how would you manage the case in event of each of the three causes (omit description of operations)?*"

Here is an actual experience at the bedside which is apt to occur to any practitioner in the case of the first patient he attends after he is licensed to practice medicine, the solution of which and a quick solution at that, means life or death to the patient. Had the applicant been asked for the symptoms of placenta prævia, or of a premature detachment of a normally placed placenta, or of a ruptured uterus, he could in all probability have written them down as a parrot would have repeated them, correct in every detail. He could probably have told equally well how to have treated each one if that question had been asked him. He might have been able to have told what ergot was and all about its physiological action, he could no doubt tell how to do version, he might know all about the dangers of hemorrhage and could have written a long and correct essay on peritoneal infection. But had he not been taught how to think, how to gather all this detailed knowledge into a concrete working form, how to correlate the one kind of knowledge in his possession with the other, how to differentiate these conditions one from the other, is there any doubt as to what would become of his patient?

A point of importance in the method of putting this question is the blending of a wide range of subjects. The man answering it would display either his knowledge or lack of knowledge of symptomatology, diagnosis, therapeutics, physiological action of drugs, prognosis and treatment.

It is exactly this which I conceive constitutes the functions of a state examination, *viz.,* to test the applicant's ability to use his tools with a sufficiently safe assurance to render it proper for the state to turn him loose on an unsuspecting and unprotected community. He can not show such knowledge as to use without incidentally showing that he knows his tools, and consequently a direct examination as to this is entirely superfluous and pure waste of time. All examinations which involve the tools alone without their correlated use is a mere farce.

The blending of various branches in a single question is an important part of this method of test as adopted in Pennsylvania. *In severe ulceration of the cornea what changes may occur in the structures involved and what disturbed function may be permanent. Name three microörganisms most frequently found and outline a method of detecting and differentiating them* is a type of question asked under the heading of physiology, pathology and bacteriology. Here all three branches are represented in the answer, while but two (pathology and physiology) are involved in *Describe any one lesion of the liver showing how this lesion interferes with the normal functions of the liver and the effects of such interference upon digestion.*

Enumerate the various forms of abdominal hernia; outline the technic for the correction of any one form, giving the surgical anatomy of part selected, and again, *What are the early symptoms of hip joint disease? And what is their anatomical explanation?* are illustrative of how beautifully anatomy and surgery may be blended and a practical working knowledge of these subjects drawn out. What more can be wanted in the way of therapeutics, materia medica and physiological action of drugs than a question of this type. *How would you treat a case of typhoid fever, together with the more important complications? Give dose and frequency of administration of each remedy you would use in this disease together with reasons for its employment?*

I defy any one to give me a rational reason why the state should conduct an examination in inorganic chemistry, which is a mere preliminary and foundation for physiological and pathological chemistry and prescription writing. If the state boards are to continue such examinations as descriptive anatomy, physiology, inorganic chemistry and like fundamental branches, in the name of retrogression let us introduce reading, writing, arithmetic and finally the alphabet. There is as much common sense in one as in the other as far as the state is concerned. The point I insist upon is not that all of these are not of prime importance but that there are other agencies organized to conduct these preliminary tests and get them out of the way and that the state should take over only the finished product and test it as an entity and not in detail.

Perhaps some one may object that such a limitation put upon the state boards will result in an insufficient test and that the result will be disastrous. If there be any such let him undeceive himself. Pennsylvania has now for a full year given this method of blending kindred subjects together into one practical bedside question trusting the demonstration of a knowledge of the fundamental branches to this method and the result is most convincing; so convincing that she intends to develop the method to the limits of possible improvement. Under the system of examinations as usually conducted by state boards in past years the mortality of applicants in Pennsylvania never rose above a possible ten per cent. It was a fairly stupid and badly coached boy or girl who did not amply fortify himself or herself from quiz compends or state board books and pass readily. In our June examination under a system which forced the applicant to think and apply to an actual case a working knowledge of his tools we lost over thirty per cent. and in the December examination over forty per cent.

The cry has gone up in Pennsylvania that these questions are too comprehensive and that ten such questions can not be fully answered in a three-hour session. It is the very comprehensiveness of the questions which is one of their greatest merits. In detailing the symptoms of a disease it is a very simple matter for one to omit possibly one of the essential facts. As was demonstrated time and again in a question involving the symptomatology and treatment of eclampsia, high blood pressure was omitted as a symptom, a fatal omission, and yet the candidate demonstrated in the treatment when speaking of veratrum viride, vapor baths and blood-letting that he was well versed in its importance. On a straight question on symptomatology, he would probably have lost half the possible mark by such an omission. No one expects or wishes an applicant to write all that is possible to write on a given subject, but when he writes about it extensively and from various view points it becomes quickly apparent whether he is repeating quiz compends or whether he really has a working knowledge of the subject in hand.

What has our experience taught us? We have learned that the schools having only four years in which to teach medicine of necessity devote most of the time to teaching the facts and the tools. They do the best they can to instill a knowledge of the application of these facts or tools into the students, but the time is all too short and in addition they are driven by the character of the examination given by the state boards to accentuate this type of teaching to the limitation of what they would like to do on the practical side, in order to have their students successfully pass the state board examination. While we have been urging them to teach clinical medicine, we have so arranged that if they do so to the extent they should their reputation as educators suffers. Can anything be more absurd or more illogical? The consequence has been that the first time the student attempts an examination approaching the practical in character there is a disaster; all of which might have been expected. These same classes who fell down so badly in the Pennsylvania examinations have sent out to the other state boards the same proportion of men as usual with the usual good results.

That a different result would obtain had the schools been allowed unhampered to teach medicine as it should be taught is amply testified to by the results of our December examination. Forty-three applicants came up to this examination who had failed in June and who in the interim (six months) were obtaining hospital experience (in using the tools they had been taught); of this number but eight or eighteen and one half per cent. failed. Eleven applicants who had failed in June did not utilize their time in acquiring a practical bedside experience; of this number seven or sixty-three and one half per cent. failed.

Finally we are well convinced that the departure in examinations we have instituted is a very great step in the right direction and we intend to continue to develop this idea.

We are equally well convinced that a period of time, in which the student shall cease to learn about new tools but shall devote himself to learning how to use the tools, the knowledge of which he has acquired, is advisable. The results of our December examination have made that belief the more emphatic if any emphasis were necessary of such a self-evident fact.

In order to meet the deficiencies of the present curriculums of the schools and to supplement them, with the full consent and coöperation of every medical school in Pennsylvania, the State Bureau of Medical Education and Licensure has decided that after January 1, 1914, it will admit no applicants from within the state nor without the state to the state examinations, until he or she has completed a year of service in an approved hospital, nor will any one be admitted to begin practice in the state through reciprocity who, after that date, has not fulfilled that requirement.

SOME IMPORTANT POINTS OF OUR ETHICS.

BY GEORGE W. SIMPSON, M.D.,
Mill Creek.

(Read before the Huntingdon County Medical Society, April 10, 1913.)

I do not know that medical colleges nowadays follow the rule that prevailed when we older men graduated; if not, I think it a mistake to have discontinued that rule. I refer to the custom of sending a copy of the Principles of Medical Ethics with every diploma issued to its graduates. I am informed that no other country than our own has a written code of medical ethics, a condition which would not only tolerate but invite chaotic conditions in the very best of professions. In confronting this subject, because of your committee having assigned me a paper on it, I am deeply impressed with the importance of every doctor being ethical from candid conviction and not from policy. In every contented, prosperous, progressive and happy family you will find peace and good feeling because of square dealing and affection evidenced in everyday life. Unfortunately these conditions do not apply to the "medical family," a family composed of energetic, strenuous and hyperesthetic individuals, either born so or made so by study, worry, anxiety, irregular hours, etc., all of which are incident to his life work and all of which predisposes him to be peculiarly sensitive to unfair treatment from any source, especially from one who is supposed to know better. Farmers do not have a written code, yet they do have an implied one, but when violated intentionally or otherwise it is soon forgotten and mental equilibrium is restored. It is not so easy with medical men.

Preaching medical ethics and practicing them call for different requirements on the part of the individual, as is the case in theology and many other things; for example, intemperance, virtue, etc. We, every one of us, should be imbibed with honest purposes, lofty, magnanimous, and forgiving traits that in the end make the doctor beloved and honored by his fellow practitioners as well as the public in general.

I do not believe that violations of medical ethics will ever be overcome except by a feeling of good fellowship, and good fellowship like a reformation must come from within and not from without. I have mentioned good fellowship, which means a kindly social feeling existing between individuals, between families, between professions, etc. This bond of feeling between physicians should be strengthened and safeguarded by family as well as individual associations. There should be no feeling of superiority or inferiority, and a day each year set apart for and devoted to such an object would be pleasurable and beneficial.

So far, this brief paper has been prophylactic and on the principle of the proverbial "ounce of prevention," yet I will add to it that a feeling of inferiority is as fatal to harmony and good feeling between members of a medical association as is that of superiority. There is nothing so disturbing to a young practitioner in professional lines as to be treated indifferently by the aged and experienced physician and, on the other hand, aged and experienced men expect respectful and considerate treatment from the younger members. You well know that both are handicapped in a way, the former by want of experience, the latter by want of recently required curriculum, as well as a practical knowledge of new instruments and more modern technic.

As to the causes leading to violation of medical ethics, there are many, yet they may be considered under two headings, one intentional and the other unintentional, and I will mention only a few of the former and grosser ones. First on the list is visiting a patient who is under another physician's treatment, professionally or otherwise, unless under exceptional circumstances urgent in character and then fully explained at the very near future. Second on the list is berating of another physician by talking disparagingly of him professionally or otherwise, especially when acting and professing to be on good terms and honorable footing with him. Yet there are conditions existing in the profession which call for its members to agree to disagree and personally I think under such conditions there should be no pretence of affiliation until the hatchet is buried. I consider it more honorable to be an open enemy than a deceitful vicious friend. As to the unintentional violations they can always be readily adjusted.

Another fruitful source of bad feeling which leads to worse things is cutting on the prices current in a given city, town or neighborhood. This practice is disloyal, unprofessional and often leads to disruptions between physician and patient and rarely, if ever, succeeds in making popular the man who resorts to it. Never undercharge for your services with a view of obtaining business for if you get it you do not get it in a legitimate way and it will not and should not stay with you, for it is probably some other doctor's legitimate work. Get your business on your professional merits and hold it on the same lines and you will be founded on a rocklike foundation both professionally and financially. Every practicing physician should have access to and study Cathell's book on "The Physician Himself" or some other equally good one whereby you will not only be delighted and amused, but you will acquaint yourself with everyday happenings and everyday interpretations of professional honor and courtesies.

What I shall next mention is not for us older doctors for we are schooled in it. Nearly all communities have a percentage of sharks who prey on one doctor a month, a year, several years or as long as the old doctor will stand for it. Then what happens when the doctor wants his money, does he get it? He will not, unless it is collectible. What does he get instead? He gets all abuse possible, especially as to professional qualities and character in general. This is in a measure a digression from my paper but what I want is to tell the younger men that the first object of a patient of this class is to ingratiate himself with his new medical adviser, whom he always considers a bright and shining mark and through whom he thinks he will be able to do the dismissed and unpaid doctor the most harm possible from his imagined grievances. It is a stubborn fact that such people are nearly always liars, and, if the new medical adviser should lend a listening ear, he will be told all manner of things as to what this old doctor said about the new, all sufficient, if true, to cause even hatred between the doctors. In addition, to show spleen instead of gratitude to the first doctor, a patient will go to the local newspaper correspondent and tell him of the quantity and the most excellent work that is being done by Doctor So-and-So, and the contributor of such things considers he is paying his bill by boosting one man at the expense of another. I regret to say, there are a few physicians who seem willing to accept such pay. The moral of this part of the subject is not to listen to such things coming from dishonest people for their own purposes, which, if believed, would prevent confidence and amity between medical men. Such patrons are "snakes in the grass" to all physicians and should be so considered.

In all walks, talks, and professional functions of life we should be honest with one another for honesty's sake, and not policy's sake, with a desire to be helpful in efforts at higher efficiency in our ranks, keeping in mind the Bible proverb "As ye sow, so also shall ye reap."

I think it possible for local physicians who, from time to time, cross friendly professional swords, to have a little code of their own to which I could see no objection. For example, one that I have with two neighboring physicians is this, (and I think it could be incorporated in the general code) that when one is called through choice (not by reason of emergency) to a patient of mine the case shall be his. I have always considered it equivalent to a dismissal, for I would not want to force my services on anyone, even though the patient is convalescent at the time. It makes it easier for the second doctor, and, if he is a gentleman, and it is necessary, he will help you get your fee. It so often happens that a second doctor is sent for without notice to Doctor number one and Doctor number two has no knowedge of the situation until he reaches the patient, perhaps five or ten miles away. In such a case our medical code says, "hands off" even though Doctor number one is paid in full. This means delay in action, additional expense to the patient and embarrassing position for all parties concerned. Should any of my patients ever come to one of you that way, take them regardless of my fees and you will not offend me, just so you observe professional ethics otherwise.

In working out these problems be thoughtful and careful of each other and ever ready to strain a point to care for a brother practitioner and in your noble life work be good and you will be happy.

BY THE BY.

BY W. B. KONKLE, M.D.,
Montoursville.

(Read at the meeting of the Lycoming County Medical Society, April 11, 1913.)

The cartoonists continue to work over and overwork the quaint conceit figuring a faultlessly equipped, but gameless, town sportsman in the act of setting forth the excellencies of his latest-pattern breech loader to a game-laden backwoodsman of uncouth make-up with his muzzle-loading, single-barrel gun. To suggest an application of the joke within the domain of medicine would provoke a howl rather than a laugh. And, at any rate, the representation involves a concealed half-lie—it would indicate that the old fire-arm was better than the new. That is not true. On the contrary the up-to-date was superior to the out-of-date piece. The old gun owed its greater effectiveness solely to the circumstance that it was in the hands of a skilled hunter who knew thoroughly both field and gun. Fashion in therapeutics tempts and induces us to adopt and discard remedies so rapidly that we do not have opportunity to learn any of them. To know all about one's tools is to be a good workman. A cruder implement well tried and understood will prove more trusty than a strange one though of more excellent design. With medicines it is not best to change too lightly and readily old friends for new.

Woe unto the recently fledged licentiate in medicine who immediately plunges into full practice—who at once is crowded with work! He will be doomed to the deplorable limitation of superficiality. Of course, such a calamity is unlikely; indeed, the ratio of risk of being detrimentally overrun with patients is negligible at that otherwise anxious period. Fortunately so; for, if the young doctor will keep himself busy, broadening himself with extensive research, deepening himself by delving to the bottom of the cases coming to him, this will constitute the most valuably formative stage of his career. One case closely seen and carefully thought out will be worth more to him than would be a hundred glanced at and dismissed unreasoned.

Tact is a master word in medicine, a word to conjure with. A larger success will be with the doctor who can be complaisant, even compliant, without sacrificing science or duty, who knows how to vary the shape, color and taste of the pill without altering its essential composition. To that end a high estimate should be placed on the virtue of silence. Let it be remembered that William the Taciturn saved his country by keeping his mouth shut. It is still worse in medicine than in politics to talk too much.

In dropsical cases originating in heart disease where treatment comes to a halt from failure of the usual remedies, gratifying results are occasionally obtained from an infusion of the root of dwarf elder (*Aralia hispida*) freshly dug. It may be that the efficacy of the plant depends on its recent collection. This is, likewise, true of other vegetable drugs, among which may be mentioned especially black-snake root (*Cimicifuga racemosa*) and wild-cherry bark.

Milk is a food that should be well chewed. It requires complete insalivation to insure its greatest likelihood of perfect digestion. The adult should sip it slowly, preferably taking it with a small spoon. Babies should be compelled to work patiently for it, the nipple employed having perforations so small that the milk can not be rapidly drawn. Many a curd mass in a little stomach is due to the milk having been drunk instead of eaten.

The pipeless coal-oil stove is any time and any where a delusion and a snare. But from the sick room in particular it should be unceremoniously banished as a thing of evil. It is a voracious consumer of oxygen which it replaces with deleterious gases.

The time has fully come when pneumonia should be double-branded with the name, infection. To do so will be not only to indicate the proper viewpoint from which to consider this fell disease, "the captain of the men of death," but will fix, also, the standpoint from which to attack it. If an infection, then should it be treated in the main like all other infections, by killing where possible the causative germ, and by promoting the elimination and neutralization of the toxins. Any agent which helps to do that combats the disease directly. A remedy must do that to be entitled to credit for specificity in any true sense. All other means act indirectly, and are to be used contingently, expectantly, symptomatically.

It will, perhaps, be generally conceded that syphilis is a curative disease, that at least in the majority of cases the one so unfortunately afflicted gets well. But to say that one is cured of the dire plague is far from saying that one is none the worse for having been attacked by it. What of the ravages of the destroyer itself, and what of the tax upon vigor and vitality borne by the organism while the fierce combat goes on? That is the question. Can it be that a body which has been the battle ground of a two-year war between syphilis and mercury will ever afterward have the same perfection and endurance and resistance as if it had not been subjected to such strain? Can it be that a body thus racked and battered is as fit to propagate itself as is one never so tainted and shaken? To reason to an affirmative conclusion it would seem were to make reason mock herself.

Composite pharmacy need not be polypharmacy as ordinarily censured. Complexity in prescribing does not invariably imply shot-gun prescription. The practice of combining a number of medicines for a common effect and to a single end is entirely sound. That several metals enter into the substance of a projectile does not change its nature as a projectile, and yet enhances its power. Scientific therapeutics simply requires that one clearly sees the mark and shoots with a rifle.

The term *alterative* should not be deemed obsolete. The idea is based upon good sense and good science. Most of the acute abnormal processes take care of themselves; it is the chronic ones which call for modifying and corrective influence. These more sluggish but, nevertheless, progressive disorders are so far as feasible to be deflected, conducted, coerced—in short, *altered*. Is there now, or is there likely to be, any better characterization of the object and method of treatment in many of these cases than that conveyed by the designation "alterative"?

The bismuth test for sugar in the urine is delightfully reliable *negatively*. To one familiar with it, its "nay" is clear and final: if the bismuth says there is no sugar rest assured there is no sugar. That the medical direction of life insurance companies does not take note of this advantage is a matter of some wonder; because in life insurance the point of overshadowing importance is that glycosuria shall *not* exist. Positively the test is not nearly so reliable: the bismuth may say there is sugar when none is present. But who, forsooth, would ever allow the positive determination of diabetes mellitus to depend upon any single test?

About a decade ago in a paper read before this society the writer arraigned clinical thermometers with metal caps and suspension chains as unscientific and dangerous because of the impracticability of keeping them sterile. The argument then propounded could not have been impressively convincing since the tabooed instrument is still in evidence. Verily, reforms move slowly! Some review and reinforcement of the thesis may not be untimely.

Beasley has shown that simple washing will not accomplish sterilization of the thermometer, that active chemical disinfection is indispensable. The thoroughness of such disinfection will bear some relation to the form of the instrument. The one exclusively of plain glass is preferable. Carried in a tight case of aluminum or hard rubber it can be subjected to the constant action of a germicidal liquid. A German thermometer of excellent pattern is on the market. In it the stem of the instrument with its enameled scale is inclosed in an outer tube of glass with perfectly smooth surface, it being thus rendered capable of complete chemical disinfection without possible detriment to any part.

The esthetics of the thermometer should never be lost sight of. Even though the doctor knows his thermometer is clean and sterile, deliberately to wash it in the presence of the patient is gratefully reassuring. In all decency, with merely due regard for delicacy of sentiment and the eternal fitness of things, the same instrument should not be used indifferently in the mouth and in the rectum. In medicine it is quite common to go from one extreme to the other; but such a procedure as concerning a thermometer is carrying the thing too far!

The esthetics of the subject rapidly merges into the ethics of the same. We must be careful to mix no curse in the cup of blessing we hand to our patients. Down through the ages in imperative tones comes ringing the aphorism of the Father of Medicine, "The physician should do no harm."

Literature consists of, and is determined by, two elementary things, matter and form—thought and style. Writing may be preeminently worthy by richness and rareness of its substance without the aid of, or in spite of, the mode of its expression. The works of Aristotle in the Hellenic and of Pliny the Elder in the Roman tongue are examples of this class. Then a piece may have the double merit of superior matter and admirable form. Of the authors of antiquity Plato and Cicero shine with such twofold light. It is a glory of medicine that two of its sons rank respectively with the greatest writers of the great classic languages. Hippocrates is a pure, steady star in the firmament of Greek letters, and Celsus wears the title of Cicero of physicians. That *genre* of literature whose chief end is art may be highly meritorious principally through style. A good deal of Poe's poetry and many of Hawthorne's tales are celebrated almost solely for their artistic beauty.

In scientific literature style is never its own end; it is a vehicle, and only that; hence there it can have no merit apart from sustaining the matter. So within the realm of science in order to write at all one must, indispensably *must,* have something to say. Now there are those, not a few, who can not have ideas of their own because they do nothing but exploit and commercialize other people's work. Indeed a man may be very busy and very skillful and yet not be in the slightest degree original, may merely repeat the experiences and accomplishments of others. It is the lot of such as these never to do more than sit in the congregation and occasionally respond, "amen." But the majority of the workers in the field of science have experiences, make discoveries, win ideas which are proper substance for scientific literature. Let such a man not hesitate to put his thought on the written page if called upon to do so. He may not have the literary instinct and genius of a Byron who compressed the whole narrative of Cana's miracle into the line:—

> "The water saw its God and blushed."

It is not given to every hand to strike notes of magic and of fire from the lyre Apollo strung with his hair of gold. But in these latter days science has its muses, too. For ages Urania alone represented science on Helicon. Then under the fecundating power of the *Novum Organum* to Memory were other daughters born, and took their places with the sacred nine. Of these one is the muse of medicine. Her sincere, earnest, loyal votaries she will inspire with words and message.

While graces of style are not essential in scientific writing, yet are they very helpful, and should not be ignored. In such composition a few basic rules which all may follow should be religiously observed. In the first place one should not servilely imitate models. It is best to be one's self, to say things in a natural way. Individuality has a peculiar charm. You must be bad off for hair, indeed, if you are not better off without a wig.

Brevity in writing is the "open sesame" to many a jeweled cavern. The effort should be to omit rather than to amplify. Who was it, Stevenson, who so forcibly propounded the gospel of omission? One should leave to his reader the bridging of many a gap. Minute, reiterated specification is liable to insult his intelligence and outrage his nerves. And, whether you have filled a score of lines or a score of pages, when you are through do not linger. Hold on till you have your say out, but then promptly let go, stop short, taking leave of your subject without clinging, fond farewells.

It is well with the initial stroke to cut directly to the core of the theme in hand, to plunge *in medias res,* borrowing a phrase from Horace. The indiscriminate copying of a certain form of literary product has, in medicine, led to extensive error at this point. The method in question is that of exhaustive research of the literature of a given department with a complete marshalling of the bibliography thereof. The exercise seems to be peculiarly enticing to medical writers. In fact much distinguished work has been done in this direction, nowhere else in medicine have learning and ability made themselves more conspicuous. The process, however, applies chiefly where research, review, historical résumé are their own end, are themselves the aim of the article contemplated. And even here the judicious, discerning author will painstakingly winnow the wheat free from the chaff. But when the prime object is simply to present some point of observation or some result of investigation, then to take a preliminary excursion through the general literature reaching out around the subject may lay one open to the imputation of pedantry. Indeed, quite farcical and ludicrous is often the appearance of a modest array of original matter parading between a formidable vanguard of comprehensive review and a terrible rear guard of bibliography.

Occasionally a master mind accomplishes in literature things more vast than possible otherwise by moulding and joining and vitalizing and stamping with original personality the materials gathered and arranged by auxiliary helpers. But it requires an intellect of great power of grasp, of penetration, of organization, of direction to do that. Like another Ezekiel, such a literary master walks in a valley of dry bones. And he tells his toilers to bring the bones together, bone to his bone, and to lay upon them sinews and flesh and skin. But, as yet, lies there only a host of corpses stark and cold. Then speaks the master. From the lips of prophetic genius flow the words, "Come from the four winds, O breath, and breathe upon these slain, that they may live." And life takes the place of death.

The ordinary writer, however, may more safely depend upon himself. There are purveyors of information and hackneys of research who will sing to him enticing Siren songs. But let him think of Ulysses and his wax. Such bought and paid-for learning rarely might be properly used. Yet just a few steps out along that course a man will be getting credit for scholarship and ability which are not his. A little farther on he may become liable to the accusation of actual plagiarism. And does not the whole business bear too much the flavor of the anecdote which represents a parvenu urging the boarding-school principal to buy his daughter all the capacity she needed if she was short on it? At any rate, to charge up the slopes of Parnassus behind a squad of mercenaries is to rape the Muses, not to woo them.

PRESIDENT'S ADDRESS

BY HARVEY F. SMITH, M. D.,
Harrisburg.

(Read before the Dauphin County Medical Society, January 7, 1913.)

One year ago you elected me president of your society and I wish to express to you my appreciation of the honor you thus conferred and of your loyal support through the year. Your officers and committees began the work of the year with enthusiasm and with the determination to make each monthly program so interesting and practical that the members would feel that they could not afford to miss a single meeting. Notwithstanding the fact that the programs have been excellent and that the average attendance during the year was larger than ever before, we must confess to a degree of dissatisfaction with the results. So long as only about one third of our members attend the meetings the Dauphin County Medical Society is not holding the high place to which it is entitled. It is difficult to discuss the relation of the society to the individual member because in the last analysis the society is the individual member and the work of the society is an accurate index of the ability of its members and the kind of service they are rendering to the public. But what about the two thirds who are practically associate members? These two thirds who are members in name only, who regularly pay their dues but rarely attend the meetings, in what respect has the society failed in its duty to them? I think you will agree that we are a pretty selfish lot. We go where we are assured of getting something. Does the society offer nothing worth while?

Let us recall a few things that our societies have given us during the last several years. Many illustrated lectures have been given and papers read by recognized leaders in medicine and surgery. Much of that which is new has been given to us first hand. We have been given the recent progress in physiological chemistry and the present status of the vaccines, their uses and their limitations. The possibilities of the clinical laboratory have been unfolded to us and placed at our disposal by the profession, by the city and by the state. The milk problem, infant mortality and various phases of preventive medicine have all been most thoroughly and ably discussed. We have learned more about the *x*-ray, the interpretation of blood pressure, the bronchoscope and cystoscope, what valuable diagnostic aids they are and how they should be used in our clinical work. These are some of the more modern methods to assist in diagnosis which are available to every member of the society and should be in every day use. You will agree with me that better clinical methods, more thorough examination of patients, more careful taking of the patient's history, a more skillful correlation and interpretation of the facts we learn are some of the urgent needs of the day. Every general practitioner is an internist and as such should train himself to be skillful in diagnosis. He should be thoroughly acquainted with all the diagnostic methods which assist in reaching a correct opinion He should use them himself or direct them to be used.

Surgical subjects have been presented to us by men of international reputation. The importance of prompt and accurate diagnosis in acute abdominal conditions was emphasized again and again. Make the diagnosis first, use morphin later. Do not aggravate the picture by a purge and smoke your glass with morphin. Replace the first by the rectal tube and the latter with the stomach pump. Every acute abdominal disease that resists the stomach and rectal tubes and one dose of morphin should be regarded as surgical. We have learned that epigastric pain is of great importance in many serious abdominal lesions. It may mean the appendix or other lower abdominal organ; it may mean a gastric or duodenal ulcer, gall bladder, pancreas or some other lesion in the upper abdomen; again, it may be referred pain of locomotor ataxia or pneumonia or pleurisy. Here again we have been told to be mindful of this point, increasing or persistent epigastric pain in either acute or chronic conditions usually means surgery. Diagnosis of gall-bladder diseases, gastric ulcers and gastric carcinoma, indications for and the status of gastric surgery have all been presented to us during the last several years. The formerly common diagnosis of "chronic indigestion," "nervous dyspepsia" and "catarrh of the stomach" is no diagnosis at all and we are learning now to look behind these meaningless terms to find the real trouble. An accurate interpretation of a careful history of the case is of vital importance in diagnosing chronic upper abdomen diseases. This is often of greater value than laboratory findings. During the last few years we should have learned that there is no such thing as a harmless gallstone, that all gall-bladder infections are surgical and not medical, that gastric and duodenal ulcers are medical cases within certain limits and then become surgical, that many carcinomas of the stomach have as their original lesion an ulcer of the stomach and that when cancer of the stomach can be diagnosed as such in all probability it is beyond the cure of the most radical and skillful surgery. We have heard a constant plea for earlier diagnosis. for more accurate diagnosis and in doubtful cases more frequent exploratory operations. The latter course is better than to allow patients to drift along indefinitely until they either die or are forced upon the surgeon as a last and too late resort. When dealing with a case of so-called chronic indigestion, either persistent or recurrent, that does not respond to several months of careful dieting and medical treatment it is time to look behind the scenes for the cause of the indigestion.

The cancer problem in its various phases has been given to us. We do not know the cause of cancer and we have no cure. One fact, however, we do know; every cancer irrespective of location is at sometime in its history a purely local lesion. We further know that certain conditions like trauma and persistent irritation at a given point predispose to a cancer growth. Epithelioma of the lip occurs with pipe smoker, cancer of the cervix in the scar of an old laceration, cancer of the stomach is grafted on an old ulcer, the benign tumor of the breast dormant for years, suddenly flares up as a carcinoma. The research laboratories have not yet given us a serum, a salve or a medicine that will cure cancer. Surgery does not cure, it simply removes the cause before cancer develops, or it removes the cancer while a purely local growth.

Now, in view of these positive facts the physician to-day has but one plain duty toward his patient. The chronic ulcer of the lip with its drainage lymphatics should be removed, every breast tumor should be removed. The pathologist may tell us there are benign tumors of the breast, but clinically no such thing exists. Innocent growths in the breast are fallacies, snares and delusions. The chronic stomach ulcers should be excised and every torn cervix should be repaired and all scar tissue removed as soon as the woman has passed the childbearing period. The public first seeks the advice of the general practitioner and the responsibility lies with him. It is his duty to know the possibilities and to educate his people to the dangers of delay, to advise and insist upon the proper remedy at the proper time. Many other important subjects which I should like to emphasize, have been discussed before our medical bodies. However, the brief review I have given you should answer my original question, Do our medical societies offer nothing worth while? Our societies are not mere perfunctory bodies, but they are a great potent factor in our professional growth and should be used as such not by the few, but by all.

The medical man has three ways by which he can improve and keep abreast of the times. First, by means of his own personal reading. Second, by frequent visits to medical and surgical clinics. Third, by regular attendance at conventions and county society meetings where medical subjects are discussed. Of the three the last is the most potent because the man who regularly attends the society's meetings receives a stimulus which naturally leads to personal reading and to regular visits to medical centers. We are convinced that the medical society does offer something worth while, not only to the few, but to all its members. The members who do not attend are missing something of value and are depriving us of the support and coöperation which is so essential to success. The society owes a duty to the community, one which can be discharged only by the coöperation of all its members.

We are proud of what our society has accomplished for municipal hygiene, sanitation and public health. We have contributed our mite in the fight against tuberculosis. School inspection and certified milk were made realities by our efforts. We are coöperating with the Visiting Nurse Association in its campaign of education to teach the people how to live for health and how to save their babies. We are assisting our efficient state commissioner of health in his efforts to teach the people how to prevent the development and spread of infectious diseases. This is only the beginning of the work that is ours. Because of the popular education on health the doctor will be more frequently employed to prevent diseases than he has been in the effort to cure them. We must assume the rôle of teachers for our patients at the bedside and in our offices. The public must be educated and if every one of our 140 members would daily contribute his share we would soon be dealing with an intelligent community. Then, and not till then, will harsh criticism cease and the death knell be sounded for quacks and dishonest practitioners. More teaching and less drugging is the crying need. The time is fast coming when the public will be able to distinguish between the doctor who diagnoses and teaches and the doctor who drugs.

The retiring officers may be permitted to offer a few suggestions which have come to them as the results of a year's experience. First, the program for the monthly meetings should be carefully and thoughtfully planned for the whole year. At least two of these meetings should be either clinical or illustrated talks, as it is easier to appeal to the eye and ear than to the ear alone. To insure real value to the discussion following the paper several men should be requested to prepare themselves to lead the discussion. A social hour should follow some of the meetings. Second, until all the members get the habit of attending society meetings a special effort must be made to have them come. An additional duty might be imposed upon the membership committee, that of seeing to it that all those who already are members attend the meetings. This would necessitate regular monthly personal work by a committee saturated with society enthusiasm.

We often hear this twentieth century referred to as the day of the young man and one of our own profession has gone so far as to place a time limit on a man's usefulness. We do not believe youth can be measured by years. The man who retains his enthusiasm, who is a conscientious student and spends a portion of each day in reading, who constantly strives in his daily work for personal improvement, that man is young irrespective of his years. We have members here to-night who are beyond the Osler age, but who are at the fountain of eternal professional youth. That man is old who works alone and refuses to mingle with his associates. He is old who does not read and study and believes that it is time wasted to visit medical clinics or to attend medical meetings. The most wonderful organization we know anything about is described by Maeterlinck in his "Life of the Bee." The secret of its invincible power lies not in the wonderful differentiation of occupations, nor yet in the form of government, but in what Maeterlinck calls "the spirit of the hive." Let us in our coöperative efforts for the advancement of our profession emulate this little animal and develop in our society this spirit of the hive.

LESSONS AND REMINISCENCES OF FORTY YEARS OF ACTIVE PRACTICE.

BY OSCAR H. ROCKWELL, M.D.,
Monroeton.

(Read before the Bradford County Medical Society, February 11, 1913.)

I possibly can best illustrate my feelings on the receipt of a communication from the chairman of the Program Committee, requesting me to write a paper on "Some things I had learned from experience," by relating the following incident: I am fond of children and like to draw them out in conversation and by question, thus getting glimpses of the workings of the child mind.

One winter afternoon while driving in

my sleigh, I overtook a bright active boy of eight, or thereabouts, and invited him to ride, an invitation he was quite ready to accept. A lunch box and book told me he was a pupil in our public schools, and as an opener to conversation I said to him, "You have been to school, have you?" His answer came promptly that he had, and I put the further question, "What do you learn at school?" With a face radiant with intelligence and pleasure, his reply came, "O I learn everything." "That is splendid my boy, but tell me one thing you learned, will you?" The face assumed a thoughtful expression, the brow wrinkled and he hesitated. It was hard to come from the general to the special; out of that great mass, that he had denominated everything he had not had time to classify. And so he told me reluctantly, that he had forgotten, To aid his memory I said to him, "You learned to spell, did you not?" "O yes," he said, and again he was all enthusiasm and life. "Spell horse for me will you?" And eagerly, promptly and correctly he spelled it. "Now that you have spelled it, will you not tell me what a horse is?" Again the wrinkled brow, the troubled look, and the drooping head, and in a voice barely audible he answered, "I do not know." "Well now spell man." He looked as though I had almost insulted him in giving him the little, three-lettered word to spell, yet he promptly responded. "You certainly spell well; now tell me, what is a man?"

This question that has puzzled many an older brain, puzzled his also. He had answered as to the horse, that he did not know, must he still endure further humiliation by giving a like answer to this question. After a delay in which the fate of the universe seemingly hung in the balance, a bright look suddenly illuminated his whole countenance and he turned to me and in a tone of great relief and assurance informed me that he was not in geography.

On the receipt of your chairman's letter, I asked myself the question, what have I learned in the school of experience? And with the enthusiasm of this happy school boy came the reply "O I have learned everything." But will the Bradford County Medical Society accept this general statement? Will it not want something more definite and specific? And so I turn my mind to specific things only to find myself in somewhat the same dilemma as the school boy. Yet as I give the subject further thought it comes to me with great force that possibly this answer which came so promptly to the boy's lips and to my own, is not, after all, wholly wrong, for does not experience teach us all that we know, everything? The knowledge of the schools, the textbook knowledge, is not really our own, no matter how faithfully and thoroughly acquired, until we run it through the mill of our own personal experience. It is thus and thus only we gain full and complete possession of the same, and its value to us becomes available. David in Saul's armor would have been an easy victim of Goliath's strength, but armed with that which experience had made his very own, he easily slays his boastful foe. As food must undergo a process of digestion and assimilation before it can become living tissues of the body, so knowledge must undergo a similar process before it becomes a part and parcel of ourselves. Early in my practice I learned that disease as described in the textbooks and the medical lecture was quite different from the disease met with in actual practice; that the disease of actual practice is the disease of the textbooks moulded, shaped and individualized by each and every separate patient.

As the garment worn by the individual comes to resemble him and even when discarded still retains sufficient of such resemblance as to remind you of the wearer, so disease partakes of the personality or individuality of its victims. This leads me to say, that there can be no uniform or mechanical treatment; each case is *sui generis,* and must have individual and special consideration and management. He is the wisest practitioner, and will meet with best results, who seeks to know his patient as well as to know the disease his patient has donned. Typhoid fever in phlegmatic, emotionless John Brown is quite a different affair from typhoid fever in nervous excitable Mrs. Jones.

There is another matter that experience has pressed home to me, and that is, that we have but few specifics in the treatment of disease; modern discovery is adding to the number, and still they are not numerous. Old Dr. Watson, years ago, compared the sick patient to a ship at sea, during a storm. You do not expect to stop the storm, he said, but your efforts are directed in so managing and supporting the ship, that she may outride the storm. This simile may not be as true as when uttered, for while it remains true that we can not stop the storm, it is possible to pour oil on the troubled waters, and thus, in the very midst of the tempest, create a quiet haven in which the vital forces may be conserved and the patient ride safely into the harbor of health.

While under this head I will speak of the number and variety of drugs and appliances that go to make up the armamentarium of the new-fledged physician. The materia medica is all but exhausted, and yet he is in search of something new, that his quiver may ever be full, that no disease however obstinate and implacable may resist his valiant onslaught. Time, however, will change all this, and the great multiplicity will be followed by the wisely selected few tried and tested ones, and his prescribing will be less of the shot-gun variety. He will not be beguiled into symptom treatment, but will seek to find and remove the cause. And further I have learned in the school of experience that drugs and instruments form only a part, and in many cases the minor part at that, of the physician's equipment. His personality is often much more potent for good than the drugs he administers or the instruments he wields. His hopeful, cheerful, assuring entrance into the sick room drives out despondency and gloom and brings courage, cheer and hope. A lady speaking of an honored and respected member of our profession, now gone to his reward, said, "The knowledge that his old faithful horse stood at my gate was reassuring, and his familiar step approaching the sick chamber brought comfort and hope."

Experience teaches me that for responsibility assumed and services rendered medical fees are too low. The faithful, painstaking, conscientious physician should have, during the years of health and vigor, a compensation sufficient to provide for the years of decline and forced inactivity. He has given the best of his life to the service of his fellows, its closing years should be freed from the necessity of bread winning. While the fee is not the highest and noblest incentive to service, and does not appeal strongest to the true physician, yet it should never be so beggarly low as to degrade and belittle the service in the eyes of the public; while Paul's injunction to every man is not to think of himself higher than he ought to think, it is to think soberly and justly. We have no right to underestimate ourselves and the worth of our services.

There is possibly no other calling in which greater care and judgment should be exercised regarding what is said. It will never do for the physician to be a gossip; he must not be a vender of news between his patients. Much skill and tact frequently will be required to avoid the offending of the overcurious, and at the same time not to reveal professional secrets. It was Solomon who said, "The words of a wise man's mouth are gracious, but the lips of a fool will swallow up himself." The prayer of David should be the prayer of every physician, "Set a watch, O Lord, before my mouth; keep the door of my lips."

We have our limitations; some things we can do and do well; some things we can not do, even indifferently well; experience teaches what we may undertake with advantage to our patients and credit to ourselves and what we never should undertake except in the most pressing emergency. If we are in doubt or do not know, why hesitate to say so? Confessed ignorance is far less injurious to the public, and more creditable to the profession than ignorance that resorts to deceit and falsehood in its attempt to hide. The family physician occupies a position quite unique. In him the family confides; he is admitted into the inner circle where secrets that could not be entrusted to another become his. No priestly office can bring its bearer so intimately and closely into relationship with the family as that of the family physician; it is truly one of the most sacred and responsible of earth's relationships. This confidence and trust is sometimes betrayed by the lecherous, unprincipled, designing ones, but it is the glory of our noble profession that these cases are rare and that the great majority, although tried and tempted as perhaps the members of no other profession can be, prove themselves worthy of the exalted calling, and deserving the confidence and trust placed in them. The character, the prevalence and the treatment of disease has changed much during the last forty years.

Contagious and infectious diseases, by improved hygienic and prophylactic measures, have been markedly lessened and in some localities have been almost entirely stamped out. With an intelligent and thorough coöperation on the part of the public, diseases like measles, scarlet fever, whooping cough, diphtheria and mumps could be almost entirely eradicated. I saw hundreds of cases of scarlet fever in the early years of my practice; it is rare to see a case now. I never saw a case of smallpox, I trust the time is not far distant when all physicians can say the same regarding all contagious and infectious diseases. These are all preventable diseases, why permit them to devastate our homes, bringing sorrow and sadness?

Forty years ago in March, I received from the University of Pennsylvania, my authority to practice the healing art. The same spring, I opened an office in the village of Monroeton, this county, where I have been continuously located, and in active practice since. These years have been most wonderfully marked by advancement, improvement and discovery in all lines of medical and surgical practice. Time to prepare and arrange will not permit me to speak of these in detail; they are familiar to you all, and witness to the perseverance, zeal, energy, self-sacrifice and devotion that has made their accomplishment possible. I have been unusually busy since beginning this paper; weariness and frequent interruptions have tended to make my remarks fragmentary and incomplete. I do not offer this as an excuse, but as an illustration of the fact, in the statement of which I think we shall all assent, that the country physician, of all men, is least able to plan ahead the disposition of his time.

I would like to add in closing (and it is not as an egotist that I say it, but as I would make a statement entirely independent of my own personality) that while the forty years have so dulled memory regarding many things that I feel reasonably certain that I could not pass the examinations of our state boards, yet I feel that the case I would assume the care of to-day is in safer and more competent hands than was the one when I could have passed a very creditable examination.

Members of a noble and honored profession, will you not permit me this closing injunction, using the language of St. Peter? "Giving all diligence, add to your faith virtue; and to virtue knowledge; and to knowledge temperance; and to temperance patience; and to patience godliness; and to godliness brotherly kindness; and to brotherly kindness love."

THE USE OF ROENTGEN RAYS IN NEUROLOGY.

BY GEORGE E. PFAHLER, M.D.,
Philadelphia.

(Read at the Evening Meeting of the Medical Society of the State of Pennsylvania, Scranton Session, September 24, 1912.)

The use of the Röntgen rays in medicine has reached a stage where the method is thought of in connection with any obscure condition of the body in which there is likely to be distinct macroscopical anatomical changes. This applies in neurology as well as in general medicine and while we can rarely show actual changes in the nervous tissue, because of the bony encasements, the method will frequently demonstrate pathological changes in the surrounding structures which influence the nervous system directly, or which have been brought about by disease affecting the nervous system, and therefore furnishes valuable evidence in making or confirming a diagnosis.

LESIONS IN THE BRAIN.

Brain tumors are demonstrable when they contain calcareous deposits, when they cause pressure absorption or other changes in the skull, such as absorption of the lime salts due to actual involvement by the disease, or when they are unusually dense and of considerable size, even though deeply situated. The last type is not believed to be demonstrable by German authority[1] and yet Dr. Charles K. Mills and I studied such a case twelve years ago.[2] So accurately was this tumor outlined that I was able to say at operation that only half had been removed. Later at autopsy the remainder was found but could not have been removed completely.

This tumor contained no calcareous material. So, too, another type which is generally believed to be unrecognizable was accurately outlined by myself in a case of Dr. Mills' about ten years ago. In this instance a gumma of the dura about one half inch in thickness was recognized by its density and not because of disease of the bone.[3]

Brain tumors sometimes lead to dilatation of intradiploic canals, and then can be demonstrated by the *x*-rays, as was shown by Schuller[4] and by means of which he diagnosed two tumors.

Tumors of the auditory nerve have been recognized by Henschen[5] because they produced dilatation of the internal meatus. These tumors can therefore be differentiated from other tumors in the region of the pons.

While a negative diagnosis is of no value, sufficient evidence of tumors have been found by a number of investigators to make the Röntgen examination justifiable in every case of suspected tumor.

Abscess of the brain can not be directly recognized because its density differs very little from the surrounding tissue, but if it presses upon the bone or involves the bone it can be recognized by the decreased density. So, too, evidence of the origin of the abscess may be recognized at times, such as of the mastoid cells, the sphenoidal sinuses or necrosis of the calvarium. Syphilitic processes in the skull, which usually give characteristic appearances, may give the clinical symptoms of brain tumor. I know of one case in which arrangements had been made for an operation on the following day when an x-ray examination revealed the true characteristics of the disease.

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[1] Krause, Kleinberger. An exception to this is the case by Henschen, *Fort. a. d. Geb. d. Roentgenstr.*, Bd. XVIII., s. 208.

[2] *Philadelphia Med. Jour.*, Feb. 8, 1902.

[3] *Philadelphia Med. Jour.*, Sept. 27, 1902.

[4] *Fort a. d. Geb. d. Roentgenstr.*, Bd. XIV., s. 100.

[5] *Fort. a. d. Geb. d. Roentgenstr.*, Bd. XVIII., s. 207-216.

Aneurysm within the skull can be recognized when it causes thinning of the skull due to pressure.

Hydrocephalus sometimes develops symptoms later than usual during childhood and therefore makes the diagnosis difficult. In these cases the usual characteristic appearance of the skull may not have developed, but by the x-rays one can recognize the depressions in the calvarium caused by pressure of the convolutions, and therefore thinning of the bone. In another type, such as I studied for Dr. Lowenberg,[6] the child had the characteristic appearance of the skull to a slight degree but had developed as a normal child until eight years of age, when the symptoms of brain tumor developed and in which choked disk had developed. I found an increased area of transparency corresponding to the region of the lateral sinuses on both sides. I interpreted this as possible evidence of hydrocephalus, taking on increased development. Under treatment and without operation the symptoms, including the choked disk, disappeared.

Focal epilepsy and other forms of meningeal irritation may sometimes be accounted for by exostoses or thickened dura and these can be demonstrated by the rays.

Fractures of the skull may cause symptoms due to actual compression, such as depressed fractures, or due to secondary necrosis, as occurred recently in a case of Drs. Mantz and Gilbride in which an injury had been received six weeks previously with no definite brain symptoms but as necrosis set in pus and cerebrospinal fluid began to ooze from the wound. X-ray examination showed a circular fracture 1½ inches in diameter, with other stellate lines of fracture. Operation showed necrosis and laceration of the dura. Fractures may involve only the internal table, and give rise to compression from hemorrhage. This can usually be shown radiographically. In a case studied by Grashey of Munich such a fracture was recognized in the x-ray plate, but could not be seen macroscopically at autopsy. Microscopic study, however, showed clearly the line of fracture. So, too, a fracture at the base of the skull may at times be recognized by the hemorrhage which it has produced in the accessory sinuses,—the sphenoid, ethmoid, or frontal.

Foreign bodies in the skull or spinal column can, of course, be recognized. Their accurate localization in the brain and extraction is not simple, however, because of the difficulty of establishing definite landmarks that will persist during the operation and serve as definite guides to the surgeon. Therefore, the greatest care is necessary so as to conserve as much as possible the brain tissue.

Spinal Cord and Spinal Nerves. In practically all instances lesions causing cord or spinal nerve symptoms must produce some change in the adjacent bone or be due to primary disease in the adjacent bones. Such lesions are:—

Dural tumors, such as fibrosarcoma, which is likely to produce some change in the vertebræ by the time they cause pressure symptoms. This change will usually consist in some absorption of the lime salts, or perhaps actual involvement of the bone tissue.

Metastatic tumors of the spinal column, such as commonly follow carcinoma, of the breast in women and of the prostate in men, will cause a localized absorption of lime salts which can be recognized by the Röntgen rays. Very generally this will not be confined to a single focus but will show multiple foci. A very early case, however, was referred recently by Drs. Rodman and

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[6] *Archives of Pediatrics,* June, 1911.

Jamison in which the patient suffered from intercostal neuralgia in the distribution of the left seventh intercostal nerve. By *x*-ray examination I found a single focus of disease corresponding to the spinal foramen of the seventh dorsal nerve, and indicated by a decrease in lime salts over an area less than one half an inch in diameter.

Spinal caries such as is produced by tuberculosis is likely to cause absorption of the bodies of the vertebræ and compression of the spinal nerve at their exit, and thereby cause pains in the distribution of these spinal nerves.

Pressure necrosis and resultant pressure upon the spinal nerve occurs in connection with aortic aneurysm. This can be recognized first by making a diagnosis of aortic aneurysm, which is comparatively easy in the chest, or by recognizing the absorption of the bodies of the vertebræ which can be demonstrated by the *x*-rays, both in the dorsal and the lumbar vertebræ.

Osteoarthritis of the spinal column and of the sacroiliac synchondroses is a common cause of pains in the distribution of the spinal nerves, due to irritation or actual pressure upon these nerves. Such lesions may give rise to pains in the distribution of the sciatic nerve or to pelvic pains, or to symptoms suggesting renal or ureteral calculus. I have repeatedly examined patients for renal and ureteral calculus when I found the real cause of the symptoms to be an osteoarthritis of the spine. Osteoarthritis is recognizable by the exudate in the intervertebral space and about the articular process together with exostoses and increased porosity of the bones.

Syphilis of the spinal column gives similar symptoms to those of osteoarthritis and similar lesions excepting that I believe that an exudate along the side of the spinal column is more common.

Charcot joints, which may develop before other symptoms of spinal cord disease are shown, may be clearly recognized by the Röntgen rays. An instance of this kind occurred in a case referred by Dr. Laplace. The patient had fallen and received a contusion of the hip. He was able to walk afterward and was treated as for contusion. At the end of a month, instead of being better he was worse. At this time an *x*-ray examination showed the characteristics of a Charcot joint. These are as given by Carmen: (1) Atrophy of the articular cartilage; (2) irregular destruction of bone, often associated in the same joint with (3) irregular hyperplasia of bone; (4) detached bone masses and detritus; (5) translucent areas. These lesions can be shown when ordinary clinical symptoms will not serve to make a diagnosis.

Peripheral irritation of the nerves in the course of their distribution may be caused by fractures or injuries about joints, such as commonly occur about the shoulder, elbow or the hip, and give rise to the symptoms of neuritis in the distribution of nerves that pass these joints.

Periostitis may cause a secondary neuritis when the localized symptoms of periostitis are not suspected. Such a case was referred to me by Dr. Weisenburg. A young man had injured his arm while chopping wood. Late symptoms of neuritis developed in the distribution of the musculospiral nerve. An *x*-ray examination showed a localized periostitis along the musculospiral groove.

Exostoses may give rise to no symptoms for a long time; then a slight traumatism gives rise to a secondary neuritis from which the patient does not recover. By *x*-ray examination the true cause may be recognized.

Bony tumors may cause previous symptoms along the distribution of nerves which may for a long time be treated as rheumatic or neuralgic conditions. Within the past year there came to me two such cases which were diagnosed and treated as sciatica by competent neurologists, and one patient was taken to a hospital and had the nerve "stretched" when an x-ray examination showed a large osteosarcoma causing the pressure.

Reflex symptoms may result from irritation by organic lesions in distant parts of the body. These symptoms may be very vague and general and a careful search through the whole body may be necessary to find the cause. In this search the Röntgen rays will at times prove of the greatest value. Gastrointestinal irritation of a chronic nature, such as is produced by ptosis, adhesions and constrictions may give rise to neurasthenia, general nervous depression, insomnia, etc., and can be recognized by the x-rays.

Dental irritation has been shown by Upson to cause marked nervous symptoms, such as headache, insomnia and actual insanity, without producing any local symptoms or evidence of disease within the jaws. I have had a number of these cases myself. As a rule the patients object to an examination of the teeth by the x-rays as being foolish and unnecessary; even the dentist may assure the patient that nothing is wrong with the teeth, and yet the rays show marked lesions, which when treated result in recovery if they have not existed too long.

I could refer to a number of cases if time would permit. In one, a man had suffered from constant headache for a year. He had been examined thoroughly by competent physicians, and he had been examined by his dentist within two weeks. He came to me for electrical treatment. I first examined his teeth, and found a large abscess involving the roots of two teeth on one side, and an abscess of a tooth on the opposite side. I sent him to the dentist to have them extracted. Even then the dentist could find no symptoms. The extraction of the teeth confirmed my diagnosis, and the patient was promptly relieved of his headache and has remained well since.

Another patient referred to me for a brain examination by Drs. Fenton and Reynolds, because of symptoms of brain tumor, showed nothing abnormal within the brain or skull but showed two unerupted, impacted and fused molars; an abscess about the roots of a cuspid and several exostoses. The removal of the impacted teeth and abscessed tooth was followed by distinct improvement. At the time of the last report the other lesions had not been treated.

A patient having symptoms of dementia præcox, referred by Dr. J. Madison Taylor, recovered promptly after the recognition and removal of an abscessed tooth.

I will refer to only one other case. This patient was a young woman referred to me by Dr. Weisenburg for an examination of her foot, on account of neuralgia in the foot, from which she had suffered for two years. The x-ray examination of her foot showed nothing abnormal. Because of my interest in these dental cases I examined her teeth. I found abscesses at the roots of two teeth. There is, of course, no direct nervous connection between these two and because there were no local symptoms about the teeth nothing was done for another two years, during which time the neuralgia in the foot continued. The patient then came into the hands of Dr. W. Ashley Faught who had these two teeth treated, when the neuralgia in the foot disappeared. I know this sounds ridiculous, but I report the facts for what they are worth, and will leave them to some one else who is more capable to explain them.

This hasty review of the relation of röntgenology to neurology is not complete, but will serve to suggest a wider application of the x-rays in the diagnosis of neurological conditions.

"Learn to laugh. A good laugh is better than medicine."

MOTION-PICTURE DEMONSTRATION OF NERVOUS AND MENTAL DISEASES.

BY T. H. WEISENBURG, M.D.,
Philadelphia.

(Abstract of the demonstration at the Evening Meeting of the Medical Society of the State of Pennsylvania, Scranton Session, September 24, 1912.)

Among the pictures shown were some which had never been previously exhibited. These included the illustration of a case of Jacksonian epilepsy beginning in the corner of the mouth and successively involving the same side of the face, then the fingers and the whole arm on the same side. Besides, there were illustrations of a number of epileptics in various stages of convulsions; again, of idiots and imbeciles showing the characteristic attitude and movements. Of the older pictures there were the usual types of organic and functional diseases, such as tabes, hemiplegia, multiple tic, tic of different parts of the body, and a reel of pictures illustrating insanity, showing cases of dementia præcox and other forms.

DISCUSSION.

ON PAPERS OF DRS. PFAHLER AND WEISENBURG.

Dr. Charles K. Mills, Philadelphia: I have been asked to discuss both of these papers and presentations and take pleasure in doing so. Although I am somewhat familiar with the illustrations shown and the subjects, I find it rather difficult to say anything new or enlightening.

In regard to Dr. Pfahler's demonstration of the use of the *x*-ray in the diagnosis of diseases of the nervous system, this method has undoubtedly an important place. Two of the first three cases of brain tumor ever shown by the *x*-ray, a lantern slide of one of which was shown here to-night, occurred in my practice. I well remember the first of these and the very great exactness with which this tumor was located, even its size being somewhat indicated by the use of the *x*-ray. It is of course only in a limited number of cases of brain tumor that the *x*-ray is of positive value in diagnosis. We still in most cases have to resort to every physiological and clinical method to show the location of these growths. Tumors of great density can be clearly distinguished, and the operation performed in the case just mentioned showed the precision with which the tumor was located by the *x*-ray.

Another form of disease which is the opposite of tumor, not referred to by Dr. Pfahler, can also be located by means of the Röntgen rays. This is a cyst or cystic formations. A cyst being of less density than the normal brain substance can be sometimes clearly shown and thus located by means of the *x*-ray. I remember a case of this kind in the service of Dr. Burr at the Philadelphia General Hospital. A cyst is differentiated by the *x*-ray because it is less dense than the cerebral substance, while hard tumors, on the contrary are differentiated by their greater density than this substance.

Dr. Pfahler has shown two or three cases of pituitary and sellar lesions. This subject of disease of the hypophysis or pituitary gland is now attracting much attention. There are some here who are not physicians and it may be well to say that at the base of the brain is a bony formation of peculiar shape called the sella turcia, or Turkish saddle. In this cavity is a gland, with three subdivisions, called the pituitary gland or hypophysis. This gland we believe plays an important part in the healthy organism and its lesions in certain diseases. I have had a number of cases of disease of the gland itself or of neighboring parts, this disease eventually invading the sella turcica and hypophysis, more frequently perhaps the tumor grows from the hypophysis to neighboring parts. In the inspection of cases of both of these sorts the *x*-ray is of value. Within a year or two I have had half a dozen cases which were in whole or in part tumors or other disease of the pituitary and sella. Two cases showed a positive enlargement of the sella. In four other instances the posterior clinoid processes or the whole dorsum sellæ had disappeared in such a way as to indicate erosion and absorption of these parts.

Atrophy of the convolutions of the brain, and calcifications as for instance of the pineal gland, are readily seen with the aid of the *x*-ray.

The pictures shown by Dr. Weisenburg are very impressive in indicating to you how these moving pictures can be used in several ways in connection with medicine. In the first place they are of value in the teaching of medicine. Each year recently I have used these moving pictures at least once before the class. The most important thing to do is to study the case itself in all its details with as much elaboration and particularity as possible; but when you come to teach some forms of diseases I am confident that you will gain much more by showing both the case and the moving picture illustration of the symptomatology. Something in the enlarged size, in the illumination of the object, and in the peculiar manner in which attention is fixed at the time of the exhibition makes the method valuable.

From the scientific standpoint, from the standpoint of the investigator, much can be done with these moving pictures but this field has not as yet been largely worked. One who uses his scientific imagination even during a comparatively short exhibition of this kind can see a number of directions in which moving pictures can be turned to account in getting for us clearer ideas of the fundamental phenomena of some nervous conditions and diseases. The psychic indications and suggestions of some of these moving pictures are of considerable importance.

In dementia præcox, the catatonia and histrionism of the disease, with its psychic features, may be all impressed by these pictures. In epileptic seizures as shown by these pictures is much food for thought. Take, for instance, the distinction between the different forms of spasm. Most people not doctors, and some doctors, think of epilepsy as one disease, and they think of it only as a disease with spasmodic manifestations; but, there are epilepsies. A dozen forms of disease as we know may exhibit spasm. This spasm may be due to entirely different lesions and conditions and with the aid of the moving pictures much can be learned about these differences. Among fifty or sixty epileptics will always be a certain number entirely distinct from the mass of cases of so-called grave idiopathic epilepsy. If we submit these cases to the moving picture method we shall be able now and then to pick out a case of tumor of the brain which may possibly be removed, or a case of some other focal lesion of the brain, or a case of functional spasmodic disorder different from the ordinary type of epilepsy. We can, for instance, separate Jacksonian epilepsy due to a gross focal lesion from Jacksonian epilepsy inside a general epileptic attack.

Another thing is the help it gives regarding the function of the brain and the control of the centers.

REPORT OF AN ISOLATED CASE OF "TRICHINIASIS."

BY ALBERT E. BLACKBURN, M.D.,
Philadelphia.

(Read before the West Branch of the Philadelphia County Medical Society, January 20, 1913.)

Infection in the patient occurred December 4, 1911, when he partook of potted ham sandwiches. The fact that potted ham sandwiches had been eaten was not known until after the first examination of the blood, which occurred on March 10, 1912.

Toward morning the patient was seized with nausea and abdominal cramps. A glass of saline purgative water was taken, and in the light of future events and knowledge this was doubtless a very fortunate occurrence. The intestinal tract was disturbed for the next few days and was shortly followed, December 15, 1911, by severe pains in the muscles; one of the first noticed and most persistent was in the right cervical region, immediately posterior to the junction of the outer third with the inner two thirds of the right clavicle. This pain was constant, sharp in character, and persisted for weeks. The pains and soreness of the muscles of the trunk, arms and legs were so bad that on motion the patient was stiff and sore and generally so uncomfortable that the only way he could sleep was by taking a hot tub bath every night before retiring. During this period the temperature varied from 99° in the morning to 102° at night with considerable chilliness, weakness and general prostration.

On the night of December 22, after taking his bath on retiring, he was seized with the most intense pain, shooting through the base of the right chest from front to back. The slightest move or attempt at respiration was agonizing. He was unable to lie down for some hours, and then, only when completely under the influence of morphin. On the night of December 25, he had a repetition of the above attack and was unable to lie down or turn from side to side for four days. Respirations were hurried, painful and shallow. The patient was confined to bed until January 7, 1912, with fever and nightly sweats. From January 7 until the latter part of February, the patient was around the house, but having constant fever, general muscle soreness, stiffness and pains, with increasing prostration. It was noted on several occasions that the eyelids and

BLOOD COUNT DIFFERENTIAL.

	March.						April.			May.	June.	July.	August.
1912.	10	11	16	19	24	31	7	14	29	12	8	1	8
										4,765,000			
Leu.	7000	7600	7000				6000			5,500			
Pol.	61.0	58.7	50	38	37.5	26.4	53	38	37.5	21	47	69	56
L. L.	15	17.7	11.3	8	14	21.3	13	27	11	32	25	10	20
S. L.	4	5.6	3.3	6	13	16	21	14	31.5	36	21	14	22
Eos.	14	15	33.7	45	33	32	11	16	16	6	6	4	2
T. L.	5.5	3	1.7	3	2	4	2	3	3	4	1	2	
M. C.	.5	0	0	0	.5	3		2	.5	1	1	1	

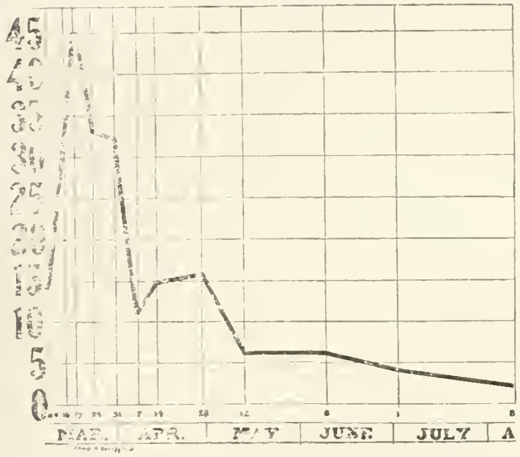

Chart showing percentage of eosinophiles present from March 10, 1912, to August 8, 1912.

forehead were puffy. Toward the latter part of February, a dry cough, without any expectoration, was persistent. The constant coughing together with an aggravation of the above symptoms compelled him again to go to bed.

A blood examination was made at this time by Dr. Phillip A. Sheaff. The appended chart shows the different periods and results of the examination.

The marked increase of the eosinophiles shown by the examination of the blood gave us the first indication as to the actual cause, together with the information that potted ham had been eaten and the fact that the illness dated from that time seemed to preclude any other diagnosis than trichinosis. The diagnosis of course was not complete in that no ova were found in the intestinal tract, and that no muscle fiber was removed for examination. From the middle of March the general pains gradually disappeared, but prostration was extreme, and the patient did not fully regain his strength until about the first of August. The pain at the base of the chest is still noticeable upon respiration.

The literature at my disposal has not shown any cases reported with the blood examination extending over the same period of time and thus indicating the length of time that is required for the eosinophiles to reach the normal. Leukocytosis is the rule. In this case there was no increase in the leukocytes.

The symptoms, some of which are found in all cases of trichinosis, are nausea and vomiting, intestinal cramp, diarrhea coming on from the first to the sixth day and later followed by constipation.

Chills or chilly sensations are present in about one fourth of the cases and accompanied by nocturnal sweats. Epistaxis occurs in a small percentage of the cases. The muscle soreness and pains are very generally present and involve more especially the diaphragm, the neck, arms and legs and begin to manifest themselves about the tenth day of the disease. Muscular weakness and prostration is early complained of and continues for months. There is not likely to be any great loss of weight. Severe burning pain in the eyes is frequently complained of. Corneal ulcers and hemorrhage, together with temporary defects in vision are not infrequently seen.

Edema of the eyelids and forehead is present in about twenty-five per cent. of the cases, in some, being so slight as to escape notice, and in others, so great as to resemble the edema of acute nephritis. Edema may also be manifest in the joints, which, when accompanied by pain, may be mistaken for acute arthritis.

Cough due to the irritation from the parasites locating in the trachea and bronchi is not infrequently found. Dyspnea, which is a marked symptom, is due to the extensive invasion of the diaphragm by the parasites.

The rise in temperature is acute and continues up to ten or twelve weeks. It ranges anywhere up to 104° to 105° with remissions of two or three degrees. It declines by lysis, requiring two or three weeks to reach normal after the beginning of the fall. The temperature course is somewhat like a mild case of typhoid. In this case the patient had continuous temperature above normal from December 15, 1911, to March 12, 1912, ranging as before stated from 99° to 102.°

In 1847, Leidy first discovered the trichina in the hog. There are three stages in the life history, the adult, the embryo and the encysted larva. As soon as the individual has eaten flesh containing live parasites the capsule is destroyed in the stomach and the parasites are set free. Fertility takes place in twenty-four hours and within five or six days the female begins to give off living parasites, variously estimated from ten to fifteen thousand to each female. They have been found in the intestinal tract for thirty-four to fifty-six days.

The embryos begin to migrate as soon as born, penetrating the intestinal wall and carried by means of the lymphatics and blood vessels to different parts of the body. The embryos have been recovered from the blood. They are likely to find a permanent resting place near the attachment of tendons.

The period of migration lasts six to ten days when they finally enter the muscles and remain permanently, and finally become encysted.

Dr. W. C. W. Glazier, assistant surgeon of the Marine Hospital Service, gives the following on the development of the trichinæ.

Tenth day, completely developed intestinal trichinæ and a few embryos migrating towards the muscles. Twentieth day, muscle trichinæ about one half their usual size; some embryos. Fourth week, oldest and most of the trichinæ fully developed; traces of capsules; high grade of myositis. Sixth week, sheaths begin to close up by condensation of nuclei against the wall, and from thence they project towards the middle, forming an arch at the end; some trichinæ in open sheaths as in fourth week. Second month, capsules fully formed; same as in sixth week. Third month, all the capsules are fully formed; inflammatory process is ended; surrounding muscle regains its normal appearance; finely granular substance at the poles. Ninth month, the capsules become shorter and nearer round; greater or less number of fat globules are found particualrly at the ends of the capsules, but they are absent in some cases. One to one and a half years, fat globules in the capsules and outside, especially at the poles; traces of calcification. After one and a half years commencing and after two years, distinct calcification.

Trichinæ have been found in human beings, hogs, rats, dogs, cats, mice, hedge hogs, eels, moles and chickens. It is altogether probable that all carnivorous and omnivorous animals may be the host of trichinæ.

There being no systematic inspection in slaughter houses it is difficult to determine the exact proportion of trichinosed meat. It is variously estimated from two to twelve per cent. Dr. Thomas B. Redding reports the examination of 550 hogs, 25 of which were infected, or 4½ per cent. In certain series of these examinations the percentage was 17⅓. Professor E. L. Marke of Harvard examined 3064 hogs raised near Boston and found 394, or 12.86 per cent., were trichinous. Of 3298 hogs raised in Massachusetts 436 or 13.22 per cent. were trichinous. Of 234 hogs which were slaughtered for state institutions, 42 or 17.95 per cent. were trichinous. It seems well established that hogs fed in pens, where rats are likely to abound, and those fed from off falls of slaughter houses show the highest percentage of trichinæ.

These figures will prove conclusively the large percentage of hogs which are infected by trichinæ, and it must necessarily follow that trichinosis occurs much more frequently than we suspect. There has never been a continuous systematic inspection at autopsy for trichinæ. Where this inspection has been made in a series of cases, encysted larvæ are found in five or six per cent. of autopsies. This indicates that many infections of trichinosis are so mild as to escape notice, or are mistaken for other conditions. It seems a crying shame that this government does not provide inspection against trichinæ infection for pork intended for home consumption.

The encysted trichinæ are exceedingly tenacious of life. They remain dormant in the muscles for years; freezing and maceration does not destroy them. Nothing short of a continous temperature of 212° for several hours will insure their destruction.

The late Dr. Frederick A. Packard, in reporting a case of trichinosis under his service in the Philadelphia Hospital, collected reports of 357 cases of trichinosis occurring in the United States and Canada. Of these 243 recovered, 80 died, while in 17 the result is not stated, making a mortality of 24.76 per cent. In all, there have been reported in the United States up to the present time in the neighborhood of one thousand cases.

Trichinosis may be mistaken for influenza, muscular rheumatism, malaria, typhoid fever.

Dr. Thomas R. Brown reported in 1898 in the *Journal of Experimental Medicine* the first observation of the blood changes in reporting a series of cases of trichinosis under his care in the Johns Hopkins Hospital. He states his conclusions as follows: (1) That there is a marked increase in the eosinophilic cells in the blood in trichinosis; (2) that this increase may be used as a diagnostic sign in this disease; (3) that this disease in its sporadic form is more common than hitherto has been supposed; (4) that a systematic examination of the blood should be undertaken in cases with indefinite intestinal, muscular or articular symptoms in the hope that in at least some of the hitherto doubtful cases a diagnosis may be reached.

That a great increase in the eosinophiles occurs in trichinosis up to eighty per cent. is established. This increase, however, seems to bear no definite relation to the special and general symptoms. In fact, in many cases the highest percentage of the eosinophiles are found in the period when the larvæ are being encysted. In this case the highest percentage found was three months after the infection.

The eosinophiles may be increased in the following conditions: Bronchial asthma, skin diseases, diseases of the bones, other intestinal parasites. In these conditions the eosinophiles are neither so constant, prolonged nor so high a percentage. It is stated and on good authority that the eosinophiles may be increased from the following drugs: Camphor, potassium iodid, sodium salicylate. Other equally careful observers have failed to note this. The origin of the eosinophilic cells is yet in dispute.

The mortality of this disease ranges anywhere up to thirty per cent., depending upon the severity of the infection. Death may ensue during the first week, due to the severity of the gastrointestinal symptoms. Death more commonly supervenes in the fourth, fifth and sixth weeks, due to the involvement of the muscles of respiration, especially the diaphragm, and extreme exhaustion.

The treatment should first include the extermination of rats, the inspection of the carcasses of all hogs. If the diagnosis is suspected sufficiently early the administration of thymol, calomel, and saline purges will have a tendency to clear the intestinal tract. After migration has commenced remedial agents are of no avail.

SURGICAL ASPECTS OF FURUNCLES AND CARBUNCLES.

BY P. G. SKILLERN, JR., M.D.,
Philadelphia.

(Read before the Montgomery County Medical Society, March 5, 1913.)

A furuncle is an acute and circumscribed inflammation of the deep layer of the true skin and the subcutaneous tissue following bacterial infection of a hair follicle or a sebaceous gland. The invading organisms, usually *Staphylococcus aureus*, gain a foothold in the latter and claim them by right of eminent domain. The tissues allow this claim, but throw a barrier of leukocytes and serum about the bacteria and their prey, and finally cast them out as the "core."

Rational treatment, then, aids nature to expel this core. With the removal of the core the entire pathological process is removed, and the exquisitely tender but protective annular ridge of assembled leukocytes and serum subsides as rapidly as the flood after the storm. What, then, is more sensible than to aid nature, and what less sensible than to interfere with her? Is it not meddlesome surgery to invade by incising with the knife the beneficent zone of highly germicidal serum and vigorous and voracious leukocytes, and to transplant into this protecting zone with the edge of the knife staphylococci that have already proved virulent? Incision then, in the early days when the boil is hard, we deem irrational. On the other hand, if the boil has been untreated when first seen, and is a mere subcuticular abscess, incision is indicated to release the core, now surrounded by a lake of pus. That is a different matter.

In treating a boil in its hard stage, I have consigned all obsolete applications, including beeswax, bread and manure poultices to the scrap-heap in favor of a simple technic which, if mastered and applied as directed, alleviates suffering from a boil and ensures its resolution under the best possible circumstances and with the smallest residual scar.

Taking for illustration an early, hard boil on the neck, first shave with a sharp razor free from nicks the skin wide of the boil. I do not believe this exposes other hair follicles to infection, for the next step sterilizes, and to a certain extent seals up, the hair-stumps and mouths of the sebaceous ducts. Now bathe this skin area thoroughly first with benzin (a good antiseptic and cleanser) and then with alcohol (ninety-five per cent.) Then paint with strong tincture of iodin or three per cent. alcoholic solution of picric acid. Now direct attention to the boil itself, and scratch the cap of the vesicle off with the point of a knife, boring a bit into the center of the boil if the exposed orifice is no larger than the shaft of an ordinary pin. Next apply a Bier cup and permit gentle suction for three minutes. Repeat in four hours. This automatically withdraws some of the infected fluids and bathes the boil with fresh blood. Dress with a drain-poultice made up of a piece of gauze saturated with a solution that is isotonic and that prevents clotting of blood or of serum in the pit at the center. Such a solution is Wright's which consists of sodium citrate, one per cent., and sodium chlorid, two per cent. Retain this moisture with waxed paper; apply over this a cotton compress to equalize the circulation, and secure with a muslin bandage. Instruct patient to keep the gauze wet with this solution. This method brings results. The boil expels its core in from one to four days thereafter, and heals up rapidly with a minute, scarcely visible scar.

If the above method is faithfully persisted in until mastered, it will be found simple and satisfactory. Occasionally a very early boil may be aborted by injection of a few drops of pure carbolic acid. If the boil be intolerably painful, it is a simple matter to infiltrate the regional cutaneous nerves with novocain.

If the boil has been squeezed, or if the central cutaneous orifice of the boil has not undergone enough pressure necrosis to permit egress of drainage, or has become blocked by clotted serum or blood, the infecting cocci transgress the defensive barrier of acute inflammatory hyperplasia, trespass upon the healthy tissue, and set up a fluctuating subcuticular abscess. This I deem the only indication for incising a boil. In fact, we are not dealing here with a boil *sui generis,* but with an abscess, and *ubi pus ibi evacue.*

To prevent furuncular recurrence, make up or have made up an autogenous vaccine. Take a platinum needle, introduce into orifice of boil, withdraw and inoculate agar slant and make smear on glass slide. On examining slide microscopically, having fixed and stained with Loeffler's methylene blue, cocci will usually be seen interspersed among leukocytes and fibrin. Incubate agar slant twenty-four hours at 36° C., and examine resulting growth by smear for purity. If staphylococci alone are found, which is usually the case, inoculate a fresh agar slant from one of the colonies. At the end of twenty-four hours' incubation, fill this agar-slant tube with ten cubic centimeters of sterile normal salt solution, and with platinum needle scrape off growth into this fluid. Plate one cubic centimeter of this bacterial suspension into a small, sterile glass-stoppered bottle that contains nine cubic centimeters of sterile normal salt solution and glass beads at bottom to break up bacterial clumps. Shake in electric shaker fifteen minutes to separate clumps. Place the bottle in a water-bath at 60° C., for one hour to sterilize the suspension. Add enough trikresol to make a 0.25 per cent. solution for a preservative and the vaccine is ready for use. Each cubic centimeter contains approximately 400,000,000 killed cocci, a proportion attained by confining the width of the inoculated area of the agar slant to about two millimeters, and making the above dilutions, or else by staining and counting the cocci with the Thoma-Zeiss hemocytometer, as for red blood cells. The dose of the first injection should be 0.25 c.c., or 100,000,000 cocci. Repeat the injection at intervals of four days, doubling the dose each time, this being governed by the degree of constitutional reaction, or, if preferred, by estimation of the opsonic index. If properly carried out, this treatment will prevent recurrence in all but the most obstinate cases. Subsidence of this attenuated hematogenous infection is indicated either by no reappearance of boils, or else by appearance of boils that rapidly abort.

Other procedures to be carried out in dealing with boils are too well known to be repeated here at length. These include hygienic, dietetic and tonic means, and examination for glycosuria, which is seldom positive.

The habit of boils to appear at remote parts of the body leads me to believe we are dealing with an attenuated hematogenous infection but I intend making some blood cultures to satisfy myself upon this point. It is certainly a hematogenous infection when arthritis, osteomyelitis and perinephritic abscess arise consecutive to the appearance of furuncles.

As for carbuncles, but little need be said. These differ from the furuncles in the infection's traveling through the *columnae adiposae* deeply into the subcutaneous tissue or even into the muscles, and invading the interspaces between these columns, and in seeking multiple outlets. A carbuncle is a very serious affair, and if not aggressively dealt with may overwhelm the patient by the severe septicemia which appears early. In order to check the progress of a carbuncle, I have lately removed under local anesthesia any boil about the lower part of the neck or upper part of the back that appears upon a person past middle age, which, by its depth and rapidity of development, threatens to become a full-fledged carbuncle. This is no operation at all compared to the extent of the disaster it may ward off. Of course, no one can say dogmatically that the boil would have developed into a carbuncle, just as no one could say that an unvaccinated person would never develop smallpox, yet if, for the sake of argument, every would-be carbuncle could be removed thus in its very incipiency, then there would be no such thing as a large, phlegmonous carbuncle, just as there would be no large cancer if every cancer were removed in its earliest stage.

Excision of a carbuncle is the method of choice no matter what the stage. The carbuncle is going to destroy whatever tissue it grips, so why not anticipate its uncertain, procrastinating and dangerously toxic course by substitution of a certain, immediate method that summarily removes the focus of infection? It can not be foretold whether a given carbuncle knows any bounds either in area of involvement or in extent of septicemia,—therefore remove it. Cut it out, cauterize its base with Paquelin's cautery to check hemorrhage, swab with pure phenol to sterilize and anesthetize the burnt area, and apply pad of gauze. Later skin-graft if necessary. Any other treatment but beckons the approach of the "Grim-Reaper." If on the face and particularly in the vicinity of the facial vein, curet the carbuncle thoroughly, especially in its area of advance, and even ligate the facial vein above and below in rapidly extending cases, in order to anticipate cavernous sinus thrombosis or embolic thrombophlebitis. Never trust a carbuncle.

Conclusions: (1) The treatment of furuncles should be based upon a study of their pathology, rather than upon empirical methods. (2) Incision in the early, hard stage is meddlesome surgery. (3) Treat the boil by Bier's cup and drain-poultice intelligently applied. Incise if a subcuticular abscess. (4) Prevent recurrence by a carefully prepared autogenous vaccine. (5) The only rational treatment of a carbuncle is excision.

REPORT OF FIVE CASES OF NEPHROLITHIASIS WITH SPECIAL REFERENCE TO THE SYMPTOMATOLOGY.

BY M. P. WARMUTH, M.D.,
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(Read before the Delaware County Medical Society, November 14, 1912.)

Renal calculi are concretions composed of the organic and inorganic salts of the urine, which are deposited either in the pelvis of the kidney or the calices, and rarely, in the kidney substance itself. Some small particle of organic matter, such as mucus, blood, or bacteria, is necessary to form a matrix, around which these deposits take place. For this purpose a single red blood cell may be sufficient.

Renal calculi are classified as primary and secondary: Primary when they occur in a previously healthy kidney; secondary when they form in a kidney already the seat of disease. The primary calculi are composed of uric acid, urates and oxalates. Occasionally the carbonates, xanthin and cystin are found. The secondary are for the most part phosphatic.

The symptomatology of "secondary calculi" is that of the diseased condition of the kidney in which they occur.

The symptomatology of "primary calculi" is often uncertain, and frequently misleading. It may produce symptoms closely simulating disease of adjacent viscera, such as cholecystitis, appendicitis, spinal caries, intestinal obstruction, or all of the symptoms may be referred to the sound kidney.

Mumford gives four cardinal symptoms for this condition. (1) Lumbar pain, (2) hematuria, (3) anuria, (4) painful micturition. He also very truly remarks that any one of these, or all may be absent. A stone that is nonmotile, or fixed, and remains aseptic, may exist for years without causing any inconvenience to its host, or producing any symptoms that would betray its existence.

The pain of renal calculus is either that of renal colic or that of chronic nephrolithiasis. The pain of renal colic is sharp, lancinating, or agonizing in character, which usually begins and ends suddenly. Duration varies from a few minutes to hours or days. In the majority of cases, it lasts a few hours. It begins in the lumbar region, radiates along the course of the ureter to the scrotum, testicle or groin, and is associated with symptoms of collapse, nausea and vomiting, and a frequent desire to urinate. After the pain ceases the patient feels comfortable, with only a sense of soreness in the lumbar region. The pain is due, either to the traumatism of a small calculus passing through the ureter, or to the increased intracapsular tension caused by a stone blocking the ureter and preventing the outflow of urine, or to both. The increased intracapsular tension is the most important factor for if a large stone blocks the mouth of the ureter, and prevents the outflow of urine, it gives pain very much resembling renal colic, simply by causing intracapsular tension. The pain of "chronic nephrolithiasis" is due to the irritation produced by a large stone in the kidney. It is usually an ache, dull and boring in character, rather than an acute or sharp pain. This is usually felt in the lumbar region, and is increased by bending or heavy lifting, or long walks. It may be felt anteriorly in the inguinal region, or in the sound kidney, or in neighboring organs or viscera. As long as the calculus remains aseptic and nonmotile, it may give no symptoms whatever.

Remission from pain for varying intervals, occurs in some patients while in others, the pain is constant.

Hematuria is a very constant symptom. Red blood cells can nearly always be found with the microscope in the urine of these patients. At times it occurs in such quantities as to render the urine red, and, occasionally, alarming hemorrhage occurs. The constant finding of red cells is one of the most reliable symptoms.

Anuria results in one kidney if the stone becomes blocked in the ureter and prevents the escape of urine; this results in either hydronephrosis or fibrous changes in the kidney. At times when the calculus causes anuria of one kidney, the sound kidney may cease to functionate, due to reflex irritation. This is followed by total suppression and uremia. Painful micturition is not always present. It is usually associated with renal colic, but even in this condition, it is at times absent. In other cases, it is the most prominent symptom, and may so mask the true condition as to lead one to believe that the trouble was in the urinary bladder itself.

As illustrating the symptomatology of this condition, as well as surgical treatment, I desire to report five cases of nephrolithiasis or renal calculus, presenting symptoms, which rendered the diagnosis rather difficult, and some unusual pathological lesions, found at operation.

Case 1. Mrs. C., aged thirty-six years, married, white, housewife, was admitted August 22, 1911. Family history was negative as regards cancer, tuberculosis or kidney disease. She had had measles and whooping cough, but otherwise her medical life had been uneventful.

Present illness began fifteen years ago at the age of eleven years, with a dull, boring pain, in the left inguinal region, lasting at times for a week or more, and then disappearing for perhaps a month, when it would return. This pain was always exaggerated on motion or bending or lifting heavy objects. About six months before admission, pain appeared in the left lumbar region. It was sharp and shooting in character, extending from the back to the left inguinal region. These pains lasted for a week or more, and were rather constant. Between the paroxysms of acute pain, the dull, boring pain was always present in the inguinal region. There was at no time any frequency of urination or tenesmus, nor any highly colored or bloody urine. At no time was there any nausea or vomiting; no chills nor fever. Urine examination showed some albumin; microscopically a few red cells were seen. There was no history of any uterine, ovarian or tubular trouble. Appetite had always been good, bowels regular, although during the past six months the patient had lost weight.

Physical examination showed pelvis negative, no tenderness over abdomen, except upon very deep pressure on left side, over region of kidney anteriorly. X-ray examination showed a large stone in upper pole of left kidney. Operation was performed August 23, 1911. The kidney was exposed by the Edebohl's or vertical incision and delivered. The stone was easily palpable and seemed to be imbedded in the parenchyma of the kidney. The kidney was incised over the stone on its convex border, following Bortl's line of incision. After the stone was delivered, it was found that it communicated with one of the calices. The wound in the kidney was closed with two deep and two superficial cat-gut sutures, the muscles with cat-gut sutures, and silk-worm gut in the skin. A narrow gauze strip extended down to the kidney and remained *in situ* thirty-six hours, when it was removed. The wound healed by primary union with no leakage of urine. The patient has been relieved of all symptoms and feels perfectly well.

Case 2. Mr. P., aged fifty-two years, white, an iron moulder, was admitted August 19, 1911. Family history was negative. He had had the ordinary diseases of childhood. Twenty-eight years ago he had a severe attack of scarlet fever.

Present illness began two years ago. Patient was lifting a heavy casting when he felt something give way in his left side. There was very little pain associated with it. Later he complained of severe, sharp, shooting pains in his left inguinal region. He had several attacks of vomiting during these attacks of pain. He was unable to work at his trade on account of pain in his left inguinal region. Urine examination was absolutely negative both as to the albumin and red-cells.

Physical examination revealed an incipient inguinal hernia on the left side. Patient was muscular, with very thick abdominal walls. No tenderness either front or back on palpation. Kidney suspected, but x-ray examination was negative. Basinni's operation for radical cure of hernia was performed. Recovery perfect, and uneventful. Patient was free from pain for about two months. Six months later he was readmitted to the hospital. Since the first operation the pain had extended to the lumbar region as well as the left inguinal region, and was paroxysmal in character, associated with frequent urination and some vomiting. The attacks closely resembled renal colic. Dr. Pfahler after repeated examination with the x-ray, located a small stone in the left kidney. On account of the patient's great muscular development and the thickness of his body, the x-ray examination was exceedingly difficult. Patient was operated upon August 23, 1911, and the kidney exposed by the oblique incision. It was necessary to remove the twelfth rib to deliver the kidney, and then it could be only partially done. A stone could be felt in the pelvis near one of the calices of the kidney. The convex border was opened and the stone felt to be suspended in the pelvis, surrounded by mucous membrane, being held in a kind of pouch, which had to be incised before the stone could be removed. The stone was about the size of a split pea. The kidney was closed with deep and superficial cat-gut sutures. The wound was closed with a gauze drainage extending down to the kidney. Healing was by primary union, no leakage of urine and all symptoms disappeared.

Case 3. I. L., aged fifty-eight, male, white, physician, was admitted July 10, 1911. There was pain in lumbar region of left side, which at times radiated down the ureter to the scrotum. Family history was negative. He had had the ordinary diseases of childhood, and scarlatina, pneumonia at the age of twenty years. Present illness began sixteen years ago with a dull, aching pain in the left lumbar region, which became very intense and radiated down to the scrotum, and was relieved by hypodermic of morphin. Second attack occurred about one year later and lasted all day. Shortly afterwards, three successive attacks followed. The attacks all began with a slight pain in the region of the left kidney. Soon this was followed with a sharp, agonizing pain, extending down the left ureter to the scrotum. There was nausea, but no vomiting. Patient was bathed in cold, clammy perspiration and was in a state of collapse. At no time during these attacks was there any hematuria, frequency of urination, or vesical tenesmus noticed. These attacks continued with more or less frequency until the spring of 1911, and since that time he has not been free from pain. During the past two or three years, chloroform in addition to morphin had to be administered to relieve the excruciating pain. The pain had frequently radiated to the left shoulder. The diagnosis of renal calculus was confirmed by Dr. Pfahler with an *x*-ray examination which showed two stones in the upper portion of the ureter and one in the kidney.

Patient was operated upon, July 17, 1911, by use of the oblique incision. The stones in the ureter were pushed back into the pelvis of the kidney and all delivered through the opening. The kidney was closed with deep and superficial sutures of iodin cat-gut. The wound oozed rather freely for two days, but otherwise it healed without trouble.

Case 4. Mrs. C., aged thirty-one years, married, white, was admitted December 5, 1911. There was pain in left loin, and left inguinal region. No pain in right side. Family history was negative. She had had the ordinary diseases of childhood, but had not been ill since.

Present condition began March, 1911, with a pain in the left side. The pain was rather constant, and lasted for nearly one month, but at no time was it severe. The urine was bloody, small in amount and of low specific gravity. After the hematuria disappeared, it was pale, and specific gravity remained low, 1.005 to 1.010 for several weeks. Soreness in loin persisted for several weeks, after which the patient was free from symptoms. Second attack began October 27, 1911. Patient was seized with severe pain in the region of left kidney, more severe than the first attack, but lasted only two or three days. Urine showed pus and albumin present for nearly a week. Patient felt soreness over region of left kidney. Third attack began November 25, 1911, with severe pain over left kidney, extending down the left ureter and required two hypodermics of morphin to obtain relief. Soreness continued in left loin and left inguinal region. Urine continued to show albumin and red cells. Patient was admitted to hospital, December 5, 1911, and an *x*-ray examination was made by Dr. Pfahler. He found a small stone near the left ureteral orifice. On the right side he found a large stone filling the pelvis of the kidney, and two small ones. December 7, cystoscope was used to locate stone in left ureter, but none could be found. Patient claimed to have felt "something pass" during the night, and a second *x*-ray examination was made, which showed that the stone in the left ureter, had passed. December 9, patient was operated upon, and right kidney delivered through an oblique incision. The stones were freely palpable, and could be felt extending up into the kidney substance. The kidney was opened posterior to the convex border, and one large and two small stones were removed. The large stone was found imbedded by two of its processes in the kidney substance. The small ones were loose, lying in the calices. To remove the large ones it was necessary to split the kidney from pole to pole. The kidney was closed with deep catgut sutures, and the wound closed with cat-gut and silk-worm gut. A gauze drain extending down to the kidney was left *in situ* forty-eight hours. Hematuria persisted for a week.

Patient left the hospital three weeks after operation, and the wound had entirely healed. In this case no symptoms were ever referable to the right kidney, and the stones were only discovered by the *x*-ray.

Case 5. Mr. J. S., white, aged thirty-two years, occupation carpenter, was admitted April 20, 1910. He complained of severe pain in the right hypochondriac region extending through to the back. Family history was negative. Father died of Bright's disease. Patient had had the usual diseases of childhood, pneumonia at the age of fourteen years, influenza ten years ago.

About two years ago patient was in an accident, caused by a heavy girder, weighing twenty-two tons, falling and striking the car in which he was working. Pieces of the car struck the patient on the head and over the lumbar region. As a result of the blow, the patient was confined to bed for six weeks. His back, since has been weak, and pain has been more or less constant around his hips, which he supposed to be due to rheumatism.

Present illness began April 17, 1910. Patient was suddenly seized on arising with a pain in the abdomen which increased in severity to such an extent, that in about two hours he was doubled up, as he expressed it, "like a jack-knife." At this time there was some increased frequency of urination. The pain continued and became localized over the region of the gall bladder and extended through to the back. Patient was admitted to the hospital April 20, 1910. At this time he had a temperature of 99⅗°; pulse 84, full and strong. The patient seemed dull and apathetic. His color was inclined to be yellow. The abdomen was considerably distended and tender especially over the region of the gall bladder. The muscles were very rigid, and a mass could be felt in the right hypochondrium. At this time he was passing urine according to his history. Diagnosis of gallstones or cholecystitis was made. The patient was operated upon at once, and an incision was made through the outer portion of the right rectus muscle, extending from near the border of the ribs, downwards for four or five inches.

On opening the abdomen a large amount of fluid escaped, having the odor of urine. A large mass was felt in the abdomen which was attached to the under surface of the liver by recent adhesion. It was about the size of a baby's head. It was separated from the liver, and found to be a very much enlarged kidney, which felt decidedly cystic. It was tapped with a trocar and cannula, and fully a pint of urine was withdrawn. The kidney so completely filled the space that it was impossible accurately to palpate the upper portion of the ureter or even the renal pelvis. The left kidney was felt for through the opening, but could not be found. The patient was turned on his side, and a counter opening in the lumbar region was made and the kidney was opened and drained, through this incision, by means of a rubber tube. The abdominal wound was closed, except for a small place for drainage. A few days after the operation, a small round arrow-shaped stone passed from the tube in the kidney. For ten days after operation all the urine passed through the tube drainage in the kidney. After this he gradually began to pass it normally until the wound was finally healed. A few months later he had some pain in his right side, and the *x*-ray showed another very small stone at the mouth of the ureter. The left kidney appeared to be about a third its normal size, according to Dr. Pfahler's *x*-ray report.

An analysis of these cases shows that only one had typical symptoms of renal calculus. Two complained of pain most prominently in the inguinal region. One referred the pain to the region of the gall-bladder, and in one no pain whatever was present. Three had red cells in the urine, one did not, and one was not examined. In the case of the one that did not have hematuria, the calculus was suspended in a pouch of mucous membrane which separated it from the pelvis of the kidney. Two had frequent urination, but in none was it painful. Thus it will be seen that none of these cases presented all of the four cardinal symptoms as described by Mumford. In determining the diagnosis in doubtful cases, no agency furnishes such valuable and definite information as the *x*-ray. The expert radiologist, in the vast majority of cases, will determine definitely whether a stone is present, their number and location, and whether only one kidney is the seat of a calculus, or both.

THE TREATMENT OF SOME ACUTE EAR CONDITIONS BY THE GENERAL PRACTITIONER.

BY CURTIS C. EVES, M.D.,
Philadelphia.

(Read at a joint meeting of the Bradford County Medical Society with the Sullivan County Medical Society, Sayre, December 10, 1912.)

In no other branch of medicine and surgery do we find such a fruitful field for the practice of preventive measures as there is in the hands of the otologist. A large majority of the chronic, incurable ear diseases seen to-day are due to neglected pathological conditions of the nose and throat, or to overlooked ear complications in the course of acute infectious diseases of childhood.

A review of all the different methods of treatment for acute ear conditions would be very long and uninteresting. I have therefore selected a few of the acute ear diseases most frequently encountered in general practice, and shall discuss only those forms of treatment which have given best results and which, in most part, can be carried out with the armamentarium at the disposal of the general practitioner.

It will be well, first of all, to review briefly some of the anatomical relations so as to combat intelligently the source of the causes of the conditions. The channels of infection into the ear, with very few exceptions, are the external auditory canal and the eustachian tubes. The latter is by far the most usual source.

The external auditory canal is an oval, somewhat curved channel about one and one fourth inches long, leading from the external ear to the middle ear. At the inner end it is completely closed off from the middle ear by the drum membrane which extends obliquely across the end from above downward. The outer half of the canal is cartilaginous, an extension of the cartilage forming the auricle inward; the inner half is bony. At the junction of the two parts the canal is smallest, and it is here we often have difficulty when attempting to remove foreign bodies. The lining membrane of the canal is a reflection from the skin. The skin is thick and strong, and freely supplied with hairs and sebaceous glands in the cartilaginous portion, but becomes thinner in the osseous part, especially near the drum, over which it is reflected as a cutaneous layer. Few or no hair follicles or sebaceous glands are found in the bony part. It is for this reason that furunculous and other cutaneous infections are found in the outer half of the canal, and cause such severe pain because little or no subcutaneous tissue is found between the skin and cartilage. The function of the external auditory canal is to conduct sound waves against the membrana tympani.

The only source of communication which the middle ear has with the external air is through the eustachian tube, which extends from the lateral wall of the nasopharynx, directly behind the posterior opening of nostril on either side, backward, upward and outward to the upper anterior part of the middle-ear cavity. It is about one and one half inches long and, like the external auditory canal, is composed of an outer bony and an inner cartilaginous portion. The tympanic opening is about one eighth of an inch in diameter but quickly tapers down until at the cartilaginous junction it is only possible to pass the smallest probe. From this point towards the throat, the cartilaginous portion gradually enlarges until at the pharyngeal opening it is about the size of a goose quill. The tube is lined throughout with ciliated columnar epithelium which is continuous with the epithelium from the nasopharynx throughout the tube to the middle-ear cavity. The function of the eustachian tube is twofold: First, to ventilate the middle ear (it is through this that the atmospheric pressure upon the outer surface of the membrana tympani is equalized); secondly, to drain the middle ear and mastoid cells.

The most frequently encountered acute ear conditions are acute purulent otitis media, acute, catarrhal otitis media, and furunculosis. No physician should undertake the treatment of any ear condition without first acquainting himself with the appearance of the normal external auditory canal and membrana tympani, through a speculum with a reflected light. A convenient and inexpensive means of light is the small pocket electric-battery lamp. This can be held alongside the patient's head by an attendant, while the light is reflected into the ear by means of head mirror. A little practice and patience with the reflected light and speculum will fully repay for the time it takes. By pulling the ear upward and backward, the canal is straightened and the speculum can be inserted well into the ear thus giving a better view. The same lamp can be used to inspect the throat by reflected or direct light.

Acute catarrhal otitis media is characterized by an acute nonpurulent inflammation of the eustachian tube and middle ear. It is frequently seen in connection with a cold in the head, other forms of rhinitis and sore throat. It very often accompanies attacks of grip. Especially is it common in children suffering with adenoids and diseased tonsils. It is often seen in connection with the acute infectious diseases, although not so often as is acute purulent otitis media. This condition is very often the first stage of an acute purulent otitis media, and so closely resembles it that frequently a differential diagnosis can not be made in the earlier stage. The inflammation extends from the nasopharynx along the mucous membrane of the eustachian tube into the middle-ear cavity. The mucous membrane of the tube becomes swollen and congested, thus partly or wholly closing off its lumen which gives rise to most of the following symptoms. A sense of fullness in one or both ears, impairment of hearing and low-pitched noises. Patients are apt to think the ear is full of wax. The condition may be well described as Packard says, as "stuffy tubes." Often there are darts of pain through the ear, although the pain and discomfort are usually referred to the area over the eustachian tube along the side of the neck. Patients frequently speak of a queer sensation in the back of the throat when the jaw is moved. This is caused by a partial opening and closing of the swollen tube.

Upon the examination of the drum it appears much retracted (due to the absorption of the air in the middle-ear cavity), reddened around the periphera and along the handle of the malleus or of a pale red color throughout. Sometimes in the later stage, the ear becomes filled with serum, due to lack of air pressure, when the drum appears to be bulging and often the line of the upper level of the fluid can be made out and sometimes seen to move with the change of position of the patient's head. The collection of fluid is uncommon in children.

The general condition of the patient, together with the local treatment, should be carefully looked after. If the patient has an acute cold in the head, five grains of hexamenthylenamin, or five grains of salol, administered every three or four hours, will be found beneficial. The use of aspirin and quinin should be avoided. Local applications should be made every day or every other day to the nasopharynx, and into and around the mouth of the eustachian tube, of a two per cent. solution of cocain, followed by a two or three per cent. solution of silver nitrate, or a twenty-five per cent. solution of argyrol. The cocain shrinks down the tissues around and the mucous membrane in the lower end of the eustachian tube, thus opening that part of the tube and affording a better opportunity to apply the silver solution further into the tube without discomfort to the patient.

The applications are best made with a cotton-wound applicator, slightly curved at the tip. The applicator should be passed gently along the floor of the nostril until it strikes the posterior wall of the nasopharynx, then it should be turned outward and moved up and down while it is gradually brought outward for about three quarters of an inch. It will often be felt to slip over the posterior lip of the eustachian tube into the tube's opening.

When a rhinitis is present it will be much benefited by douching the nose twice daily with warm normal salt solution. The patient should be instructed carefully how to use the douche; as much harm to the ears can be done by carelessly flooding the nasopharynx. The safest douche for the patient to use is the small pear-shaped rubber nasal douche. In using it the head should be bent slightly forward and tilted towards the opposite side. If the douche is fitted into the nostril and squeezed gently the solution will pass up through the nostril, flow around the posterior end of the septum and out the opposite side. The head should be tilted to the opposite side when the other nostril is douched. After several douchefuls have been used on each side, one nostril should be closed by the finger, the other left entirely open all the time, while the patient blows gently through it for several seconds. The other nostril should be cleansed of the excess salt solution in the same manner. After douching, a bland oil spray (camphor, 7 grains, menthol, 10 grains, liquid albolene to make one ounce) should be blown through the nose with an atomizer.

Patients should be cautioned not to blow the nose violently, and should always keep one nostril closed and the other open while blowing the nose at any time. The rapid opening and closing of the nostril while blowing through it is an excellent way of blowing infected material into the ear.

A thorough painting of the turbinates with a twenty-five per cent. solution of argyrol every two or three days, will be found of great benefit in shortening the duration of a rhinitis. These applications should be followed by a bland oil spray. Should there be much pain accompanying this condition, relief will usually follow the application of heat to the side of the neck. The patient may be given some such solution as follows:—

Cocain	gr. i
Belladonna	m. vii
Glycerini	3 ss
Aqua *q. s. ad.*	3 ii

to be warmed and dropped into the ear when the pain is too severe.

In children too young for local applications, five drops of a solution of menthol, two grains, camphor, one grain, and liquid albolene, one ounce, should be dropped through the nose three times a day.

When slight earache and dullness of hearing occurs in children it should always awaken suspicion of adenoids, which, if discovered, should be thoroughly removed especially around the mouth of the eustachian tubes.

Acute catarrhal otitis media terminates in one of three ways, in spontaneous cure, in acute purulent otitis media, or in chronic catarrhal otitis media. Prompt and efficient treatment of this condition I consider even more important than the treatment of acute purulent otitis media, because so many of these cases can be aborted and much future trouble for the patient saved.

Acute purulent otitis media is the most frequently seen form of acute ear disease, and often is a source of more worry to the practitioner than a case of typhoid or pneumonia, because of the uncertainty of its course and termination. It is always the result of pus-producing bacteria invading the middle ear, usually through the eustachian tube. As stated previously, it is often secondary stage of acute catarrhal inflammation of the middle ear. Very frequently it complicates bad cold in the head grip, measles, scarlet fever, and diphtheria. Cases are frequently seen during the bathing season, following violent blowing of the nose to dislodge water that has suddenly gotten into the nasal chambers. Tonsillitis and sore throat are common causes. In fact, anything that may cause an infection of the throat and nose may find its way to the middle ear. Other causes of abscess in the middle ear are improper removal of wax from the canal, blows upon the ear, or sharp instruments pushed into the ear which rupture the drum membrane and allow infection to pass through it. The condition is much more frequently seen in young children and young adults. It occurs most frequently in the changeable seasons of the year.

The most marked subjective symptom is intense pain in the ear, of a throbbing character, which radiates along the upper jaw and up into the temple and side of the head. The pain is usually worse at night, very often keeping the patient from sleeping. There is deafness, a sense of fullness, and noises in the ear. Dizziness may occur if the case has progressed for some days. In uncomplicated cases, the rise of temperature is usually slight, except in children, when it may be considerable. In the course of acute infectious diseases, especially in scarlet fever and measles, where there is a sudden rise of temperature, even without pain in the ear, the patient's ear will often show a red, bulging drum, which, when incised, releases the pus and the temperature falls.

Upon examination of the drum membrane in acute purulent otitis media, it is seen to be red and bulging outward, often so markedly, that it is difficult to make out the landmarks of the drum. Often we see small vesicles along the canal wall filled with blood. These cases are very often not seen until the spontaneous rupture of the drum occurs, when pus is seen in the canal. When rupture occurs, there is usually great diminution of pain. If the case has lasted for a few days, and the membrana tympani has not ruptured, there is apt to be tenderness over the mastoid antrum, due to extension of the inflammation backward into the mastoid cells.

The first step to be taken in these cases, if the membrana tympani has not ruptured, is the free opening of the drum membrane. This opening should be made in the posteroinferior quadrant and should be a free incision, at least one eighth of an inch in length. This can be made with but very little pain to the patient, if the drum is painted with the anesthetic solution, equal parts of cocain, carbolic acid and menthol, which is allowed to remain five minutes before making the incision. I am in the habit of saturating a small piece of cotton with the solution and introducing it gently against the drum, allowing it to remain at least five minutes. I have done this repeatedly in children and opened the drum with very little pain. These incisions always heal and rarely leave any scar. When the drum is allowed to rupture spontaneously it usually makes a stellate opening often in a part of the drum which will not allow free drainage. Consequently the ear is a long time getting well, and often times goes on into a chronic purulent otitis media, owing to the poor drainage; the opening is not nearly so apt to close and often leaves a scar upon the drum. Early and free incision of the membrana tympani shortens the course and decreases the danger of complications.

In scarlet fever cases when the ears are examined and opened as soon as redness and bulging occurs, it is unusual to have any further ear trouble following the disease. Scarlet fever ears are apt to rupture late in the upper part of the drum after the infection has done considerable damage to the structures of the middle ear. This is also true to a less degree in cases complicating measles. I would urge the frequent examination of the ears in cases of scarlet fever and measles. When an opening has been established in the drum membrane either by incision or spontaneous rupture, the subsequent treatment should be to promote cleanliness and free drainage from the canal and middle ear. Gentle irrigation three or four times a day, with warm, normal salt solution or boric acid solution is a sufficient method in most cases and may be carried out safely at home by means of a soft rubber ball syringe. After douching, the ear is gently dried by a cotton-wound match stick, and a small piece of cotton placed lightly in the external meatus. The so-called non-douche or dry method is of great value when the patient has a trained attendant. It consists of placing a small gauze wick drain within the canal. The wick should be replaced every few hours or whenever it becomes saturated. The danger attending this method is, that the secretions may become dried around the wick and block the drainage of the ear. The drum membrane should be inspected every few days to see if it is draining freely and gradually resuming its normal condition. If the drainage stops and the pain returns, the ear should be again opened.

After the discharge stops, which usually occurs in the course of two or three weeks, and the drum is healed, some deafness often remains. This may be relieved by the gentle use of the Politzer bag every third day for three or four times.

When the discharge keeps up without any decrease for two weeks or more, with increasing tenderness over the mastoid, extending backward and down over the tip, together with the sagging of the posterior superior canal wall, and with lateral headache and pain in the ear, it is imperative to open the mastoid. The same local treatment to the mouth of the eustachian tube as described in acute catarrhal otitis media should be carried out.

Furunculosis or circumscribed follicular inflammation has its seat chiefly in the outer half of the canal wall. It is an infection of a single or a group of hair follicles or sweat glands. It often occurs in the most robust, healthy individuals. Very often it is seen in connection with a general furunculosis in perfectly healthy athletes. It is very common in those generally run down, and especially is it seen in diabetes. Mechanical irritation, such as the use of hat pins and toothpicks in the external auditory canal frequently excites this condition. The general condition of the patient is very important in these cases, especially where the general resistance is lowered.

The pain which is so severe in these cases that the patient is robbed of his sleep, is usually radiated down the neck. This condition can be diagnosed when the pain is greatly increased by touching and especially by pulling upward and backward of the ear. If a point of swelling can be located, a free incision usually causes rapid discharge of pus and the prompt relief of pain. Very often in these cases the whole canal is so swollen and tender that no particular pointing can be distinguished. In these cases I have found the best results by painting the canal with a solution of equal parts of cocain, carbolic acid and menthol, then lightly packing the canal with ichthyol incorporated in gauze. This very frequently reduces the inflammation and relieves the pain, so that the patient goes home and sleeps well during the night. Where there is no discharge, this treatment is repeated every day for three or four days. It is unusual to see a case not improve rapidly under this treatment. When an incision is to be made, the cocain, carbolic acid and menthol solution should be applied on a pledget of cotton which should be left in the ear for fifteen or twenty minutes. If a small sharp knife is used, not much pain follows the incision. After the discharge has begun the canal should be kept clean by gently wiping with an antiseptic solution. Hot applications applied externally are very grateful during the painful stage.

Traumatic rupture of the drum membrane, impacted cerumen, and foreign bodies in the ear are conditions occurring frequently enough to warrant a brief consideration of their treatment.

When traumatic rupture occurs from a blow or a slap on the ear, from direct puncture by pushing an object into the ear, or from fracture through the bony canal, it should be let absolutely alone; a small piece of cotton placed in the external meatus constitutes the treatment, except that when pain occurs, heat should be applied. If infection takes place later, which will be shown by purulent discharge, it should be treated as described for purulent otitis media, by keeping the canal clean with gentle irrigation.

I simply want to remind you that the syringe is the best and safest method to be first tried in removing wax and foreign bodies from the ear. The removal of impacted wax can be done more easily if the patient will drop five or ten drops of peroxid into the ear, three times per day. for one day, before the removal with the syringe is attempted.

When foreign bodies have remained in the ear for a long time, the use of peroxid will often loosen them so that they may be removed by syringing the ear.

A one or two ounce metal piston syringe, with warm, normal salt solution, or, if in case of wax, a warm solution of sodium bicarbonate, should be used in the following manner:-

The ear should be held firmly upward and backward. The stream of solution directed with some force first along the upper canal wall. After three or four syringefuls have been used along the upper canal wall, the solution should be directed along the anterior, posterior and inferior walls in the above order.

In spite of the fact that this method is used carefully, there occurs a few cases of very hard wax and some foreign bodies which the syringe will not dislodge, which have to be removed by the careful use of the loop, spoon, or other instrument for the purpose. It would seem that owing to the danger of injury to the drum membrane and the canal wall, that the very obstinate cases of this kind should be referred to a competent aurist.

A man can not become a competent surgeon without a full knowledge of human anatomy and physiology, and the physician without physiology and chemistry flounders along in an aimless fashion, never able to gain any accurate conception of disease, practicing a sort of popgun pharmacy, hitting now the malady and again the patient, he himself not knowing which.—Osler.

CLINICAL OBSERVATIONS ON BLOOD PRESSURE.

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(Read before the American Climatological Association, Washington, D. C., May 6, 1913.)

The frequency of errors in the making and interpretation of blood pressure records suggested the desirability of bringing this subject before our association for discussion.

The small spring sphygmomanometer is employed by most practitioners, but the mercury manometer should be preferred because of its greater accuracy.

Diastolic pressure observations are often omitted, whereby valuable information, obtained from a study of the low and mean blood pressure, is lost. Usually but a single blood pressure record is made, although it is often necessary to observe the effects of work, rest, sleep and excitement.

Blood pressure depends upon (1) the amount of resistance offered by the capillaries and arterioles, (2) the elasticity of the arteries, (3) the force of the heart, (4) the amount of blood in the arterial system. But slight importance is to be attached to the viscosity of the blood. The most important factor, clinically, is the state of the vasomotor system. This system may be considered from the standpoint of the vasomotor center in the medulla, local vasomotor center, controlling regions of the body, as, for example, the brain or the gastrointestinal tract and the peripheral nervous mechanism controlling individual or groups of capillaries or arterioles. These centric and peripheral centers are readily acted upon by stimuli from various parts of the body, as, for example, the cerebral cortex, the skin, regions which are the seat of intense pain, and also by toxemias and variations in the secretions of the thyroid, the adrenals or the ovary.

Physiologically, blood pressure varies at different times of the day, and is influenced by rest, cerebral or muscular work and emotional or physical excitement. Variations thus induced are modified by disease. A sudden unexpected noise, such as produced by a China bowl falling to the floor and breaking with a loud crash, has produced a sudden temporary increase of blood pressure of from twenty to thirty millimeters. Furthermore, it is evident that a correct interpretation of blood pressure records, more especially in those of a nervous temperament, requires, not only the selection of a proper instrument and correct technic but also that the patient be under average ordinary physiologic conditions. Multiple blood pressure examinations, under various conditions, are often necessary before sufficient data is secured upon which to base a proper interpretation. Idiosyncrasies regarding blood pressure may be expected analogous to those observed in the pulse rate, the respirations and the temperature.

A man engaged in heavy manual labor, when confined to bed for some weeks from a nonfebrile disease, not infrequently shows secondary hypotension, due to prolonged rest, muscular inactivity and relaxation; whereas, such patients, after a day's work, show a higher blood pressure which would be still higher while at work. Occupations involving great responsibilities and strain of the nervous system, tend to hypertension; and the blood pressure of an orator of a nervous temperament is apt to be high while delivering an oration. Many surgeons show hypertension owing to the great responsibilities and excitement attending serious operations.

Temperament plays an important rôle in the production of variable and high blood pressure, the phlegmatic showing the least and the neurotic the maximum variations. Extraordinary variations, all tending to hypertension, are observed in the neuropathic. Driving an automobile for two hours through the crowded streets caused an increase of thirty millimeters in the systolic blood pressure and fifteen millimeters in the diastolic; whereas, under similar conditions, while driving quietly where there was but little traffic caused an increase of but ten millimeters in the systolic and a decrease of five millimeters in the diastolic pressure. These variations may be interpreted as resulting from excitement produced by automobiling. A neurotic woman stated that the act of taking blood pressure always caused fright similar to that occasioned by the near approach of a rapidly moving horse and carriage while crossing the street. Fright, thus induced, caused a systolic pressure of from 205 to 235 mm. and a pulse pressure of from 65 to 90 mm.

Physiologic conditions must be secured before making a blood pressure determination. No patient, more especially one of a nervous temperament, should be examined immediately after arriving at the physician's office, unless a control observation is made later, and any evidence of haste or excitement should be avoided. The first observation is made in the sitting posture, the second after reclining for a few minutes and a third immediately after making ten vigorous bending movements, touching the fingers to the floor with each movement.

The average systolic pressure in an adult in the sitting posture, under average physiologic conditions, is from 120 to 130 mm., and the average diastolic pressure twenty or thirty millimeters less. Occasionally the normal blood pressure of certain individuals may be five, ten or more millimeters higher or lower. In recumbency as a rule, the systolic and diastolic pressure falls five or ten millimeters, although occasionally the systolic pressure may remain unchanged and the diastolic pressure falls five or ten millimeters. Immediately after exercise the systolic and diastolic pressures are ordinarily five or ten millimeters higher than that obtained in the sitting posture. The average pulse amplitude or pulse pressure is about twenty or thirty millimeters. Occasionally it is desirable that the blood pressure be determined after walking rapidly a certain known distance or after running rapidly up and down three flights of stairs.

Valuable information as to the state of the nervous system, and especially of the vasomotor system, is obtained from blood pressure observations based upon the foregoing considerations.

In many cases of failure of compensation of the heart the blood pressure tends to decrease and the pulse pressure remains approximately normal. In well-marked aortic regurgitation, where compensation is preserved, the systolic pressure is unusually high, the diastolic low and the pulse pressure may be as much as 100 mm. or more. When the myocardium is organically or functionally weak, there is a tendency to hypotension. When compensation has been restored in the various diseases of the heart, the blood pressure may not be materially altered. As blood pressure is dependent not alone upon the condition of the myocardium and vessels, but also upon the caliber of the arterioles and capillaries, extreme variations in blood pressure may be observed in the course of various forms of heart disease.

Uremia is a cause of persistent hypertension and systolic pressures of 180 mm. to 315 mm. have been observed. Hypertension from this cause is usually uninfluenced by most drugs. A reduction of twenty millimeters or more may be secured after profuse sweating induced by a cabinet bath or pilocarpin. In my experience nitroglycerin has been disappointing in its effects upon most cases of hypertension, even when given in ascending doses at short intervals; and usually the reduction in pressure has been but slight and transitory with no symptomatic improvement. Hypertension in uremia may be chiefly due to stimulation of the centric or peripheral vasomotor centers. When the nervous and muscular mechanisms of the heart are normal, an increase in the strength of each systole may be largely due to an increase in the intraventricular pressure secondary to vasomotor constriction. In certain cases of acute lead poisoning, gout, intestinal toxemia and disturbance of the chemistry of intestinal digestion, hypertension has been observed. Vasomotor instability is a frequent cause of variation in the blood pressure.

By far the largest number of cases of hypertension in private practice occur in nervous exhaustion, particularly in those who are neurotic or neuropathic. Comparatively insignificant causes are capable of producing in these individuals notable variations in blood pressure, usually tending toward hypertension. In psychoneurasthenia readings of from 170 to 315 mm., with a pulse pressure of from 30 to 60 mm. or more, have been observed. In chronic nervous exhaustion hypertension may persist continuously for months or years, causing arterial sclerosis and left ventricular hypertrophy which may eventually lead to mitral and cardiac insufficiency. In certain cases of nervous exhaustion with hypertension, variations of ten, fifteen or twenty millimeters may occur within a few minutes, apparently due to vasomotor ataxia. In certain neurasthenics the blood pressure in the sitting position is unchanged by recumbency; or the systolic pressure may rise and the diastolic pressure may increase or decrease. In like manner exercise may produce no change in the blood pressure as compared with that taken in the sitting posture, and occasionally a lowering is observed.

These marked and unusual variations from the normal seem best explained by viewing the vasomotor system as incoördinate or ataxic. Vasomotor ataxia presents its most classical clinical picture in certain cases of well-marked menopause, many of the patients presenting not only extreme variations, but at times extreme hypertension rising to 200, 235 or even 270 mm., associated with a pulse pressure varying between 60 and 110 mm.

Hypertension may be induced by excessive secretion of the thyroid gland or adrenals. In a case of advanced Addison's disease, with great destruction of the adrenals, the systolic pressure was 90 mm. and the diastolic pressure was 70 mm.

Time will not permit further discussion of this subject or of the treatment of abnormalities of blood pressure; but it is obvious that the best results may be expected from removal of the cause.

THE NEED OF A PLAN TO ELIMINATE THE MENTALLY UNFIT FROM SERVICE IN TRANSPORTATION COMPANIES.

BY THEODORE DILLER, M.D.,
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(Read before the Association of Baltimore and Ohio Surgeons at Pittsburgh and before the Chicago Medical Society, June, 1913.)

For nine months past I have been serving as consulting neurologist to a large railroad company; and during this short period I have been called upon to examine five employees of the railroad, four of whom were found to be suffering from paretic dementia. Two of these men were engineers, one a fireman and the fourth a switchman. Another man suffered from a type of confusional insanity, perhaps dependent upon arteriosclerosis. The switchman was on duty at the time I examined him. His case was one of the quiet, dementing type of paresis and the progress had been slow. The clinical examination and laboratory tests left no room for doubt as to the diagnosis. The cases of the engineers and the fireman were all well developed when I saw the patients and at the time they were all off duty. It must be supposed, however, that all of them, for shorter or longer periods of time, were on duty while suffering from paresis; nor could one think of any plan by which it would be possible to eliminate from railroad service men having paretic dementia at its very beginning.

This experience has set me thinking over this whole subject; and the very natural thought comes to my mind that the railroad employees who become mentally disabled, either by reason of paretic dementia, arteriosclerosis, epilepsy, cerebral syphilis or any other cause, should be eliminated from the service as promptly as possible.

Attention has already been called to this subject by Knapp[1] and Dunton.[2] Knapp states that five out of fifty men suffering from paretic dementia, seen in the outpatient department for nervous diseases at the Boston City Hospital, were employees of transportation companies; and he learned that out of 263 general paralytics in various insane hospitals of Massachusetts, nine were railroad employees; and he shows further that "general paralysis or other chronic diseases of the brain attended with mental disturbances was not infrequently found in railroad employees." Knapp argues with reason that fatal accidents may, and probably have, arisen by reason of the existence of mental disease in employees rendering them less reliable and less competent. He says truly, "These diseases, as we know, are of insidious onset, and the family often think at first that they are of trifling consequence. The patient feels unable to give up his work and the attending physician fails to recognize the real gravity of the trouble long after it is evident to the skilled neurologist.''

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[1] In a paper read at a meeting of the Boston Society of Psychiatry and Neurology, January 17, 1907.

[2] In a paper read before the American Medical Association, June 26, 1909.

In a similar way Dunton argues the same question. In one case mentioned by Dunton, an employee suffering from epilepsy declined to give up his position although advised to do so. In this case Dunton felt that the proper course was to inform the railroad company and to disregard the old oath of professional secrecy. I may state here that I had one case exactly similar to this. A railroad fireman suffering from epilepsy consulted me. I advised him in the strongest terms to give up his position; when he demurred about doing so I warned him if he did not I would feel called upon to make a voluntary statement to the company regarding his condition, and to warn them of the danger which might occur by reason of his continuance in their employment.

These considerations at once suggest the need of systematic examinations of railroad and other transportation employees to determine their mental integrity and especially such employees as are engaged in transportation. It is now well recognized in railroad circles that it is absolutely necessary that signals to be conveyed by the eye and ear must be understood and acted upon, and hence tests for sight and hearing of employees are made regularly and systematically. It is very well known that there may be, as regards the mind, a slow insidious involvement such as we see in paresis, cerebral syphilis, arteriosclerosis, etc., which may escape the attention of the ordinary observer and indeed of the railroad surgeon. So it appears to me that railroad companies should take up this question for very practical considerations and set in operation some scheme by which the mental integrity of all employees engaged in transportation should be inquired into systematically from time to time by a medical man, who has been trained in mental diseases. Such an examiner could doubtless be materially assisted by some practical railroad man in giving tests of various sorts which would constitute a practical examination to supplement or make more efficient that of the physician.

I am making this recommendation in the hope that it may be taken up in some practical form for consideration by this body. That the Relief Department of the Baltimore and Ohio R.R. is alive to the question which I am raising in my paper may be seen by the following quotation from a letter written to me by Dr. S. R. Barr, superintendent of the Relief Department:—

> "The Relief Department has time and again reported as unfit for railroad service, employees afflicted with nervous and other disorders. Invariably our recommendations have been carried out and the persons so reported removed from the service entirely or provided with work which they were able to perform without endangering their own or the lives of others. However, we have not secured authority to make periodical examinations of employees, many of whom have been in the service many years, except as to sight, hearing and color sense. I am fully aware that it is desirable to have engineers and firemen, especially, undergo physical examination every two or three years for instance, and I hope yet to succeed in convincing our superiors of its importance.
>
> "It is our present practice to make sure that every man is fit for his work after severe illnesses, but that is the only condition under which we are in position to acquire information of this character. At this time I know of quite a number of men in the engine service who are not permitted to work by reason of mental trouble, nervous or heart disease and other ailments. If any such are at work we know nothing of it."

It is plain then, that the Relief Department of the Baltimore and Ohio Railroad is doing all it can under the present authority to eliminate from its service the mentally unfit. And we must all hope that the time will very soon come when engineers and firemen and switchmen shall be required from time to time to undergo an examination to determine the question of their fitness, both from mental and physical point of view, to continue at their occupation. If this is brought about it will work some hardship and I suppose the rule might meet with some opposition on the part of the men, but the question as to whether or not the mentally unfit should be allowed to continue in transportation service of railroads can not admit of any discussion.

THE OLD SCHOOL AND THE NEW.

BY N. C. MILLS, M. D.,
Big Run.

(Read before the Red Bank Physicians' Protective Association, New Bethlehem, January 7. 1913.)

My subject on this occasion should interest all of you, for among us there is not a man who does not come under the classification of the old school or the new, and in my future references to the old school I do not mean to speak disparagingly of any of our predecessors, or of the pioneers who have blazed the trail for us; nor do I wish to be considered as coming here to laud and applaud the newer and more modern products of our many medical institutions.

In choosing this subject I had in mind two classes of medical men that have probably existed since the time of Aesculapius, just as they exist to-day. They are not confined strictly to the medical profession either, but we find them sharply distinct the world over, and by the terms the old school and the new I mean to differentiate between the conservative and the progressive elements of our profession.

We are told by the newspapers, the magazines, the preachers and the politicians that we are to-day living in a very critical period in the history of our own country, and the world in general. A short time ago we were called upon to vote, either as conservatives or progressives. Old party lines and fences are down, a new and vital question has arisen, and the best men we have from the old parties have assumed the leadership in the new.

This ''condition of unrest,'' as the stump orator puts it, not only exists in world affairs, our national government, religious matters, education, morals and customs, but also has actually reached our staid and ultraconservative profession as well. It is not so much a condition of unrest as it is a state of transition that has been forced upon us, as a profession, by the progress going on about us and within our own ranks; just as the great progress of the world and of civilization has brought about the conditions around us in other phases.

The object of this short paper is to ascertain whether you and I are in this movement and, if so, are we progressive or conservative, old school or new; or, in plain words, are we doing anything for the general good of our profession, or are we still pegging away in our own narrow groove for the good of suffering humanity and our own small selves?

As a body and a profession, we are probably the most conservative class of men in the world. Medicine is a jealous mistress. Our small spheres, our daily drudgery, our professional pride and jealousy, and, last but not least, the everlasting chase after the almighty dollar leave us but little time for the general good of our profession or the common weal.

The old school, practicing under different conditions and possibly under higher standards, had less time than we for organization and fraternity. To us, living in a progressive age, with quick transportation and all the modern improvements of civilization, has been given a golden opportunity in these respects, and are we as progressive medical men embracing it?

It has occurred to me that we, as an organization, might well change a part of our name and use the word progressive, instead of the term protective, in giving a name to our order.

In regard to the various crises going on about us, I am optimistic, I believe firmly that the outcome of all our present unrest in national politics will be for our common good, the croaker and the knocker to the contrary; and just so surely as I believe this, do I believe that the outlook for the future of our profession is definitely better now than it ever was, and particularly so in this locality.

The ideals of the doctor of the old school were high. His aims were lofty and most unselfish, so far as suffering humanity was concerned, and are worthy of our emulation; but, as a dreamer of dreams and as an idealist, condemned to drudgery in the noblest of professions and the dirtiest of arts, he quite overlooked the absolute and dire need existing in himself and his fellow practitioner. His field of vision was narrow; he saw only those about him who needed him; he never could see the other fellow or realize that they needed each other.

And let us not, under the new order of things, forget the debt that we owe as practitioners to the old; for truly these self-sacrificing men have placed our profession on the high pinnacle on which it now rests. The aims and ideals of the old order should be our own; their acts of charity and self-sacrifice must be our inspiration. We must guard against the commercial instinct in practice under the new order of things, lest we become as the charlatans and quacks who sojourn among us, but, above everything else, we must be more concerned about our common good as a profession, than were the old school, if we would have the medical profession of the future rise up and call us blessed.

When the Red Bank Physicians' Protective Association was yet in its infancy, and before it was out of the swaddling clothes, which our president and a few colleagues had carefully wrapped about it, these men of the old school, these conservatives of conservatives, looked down upon it with marked disfavor. They offered objection after objection. It was first of all illegal; it was unprofessional; it was a conspiracy; it would not hold; medical men could not stick together like the miners, the traction hands, or the hod-carriers, in their unions. They frowned; they questioned; they deliberated before they joined; but finally when their younger and more progressive colleagues came in, they hesitated, and were lost; they also joined.

Since we have been in operation there are still to be found "doubting Thomases" in our ranks, but they grow fewer and fewer as our membership increases. We find these doubting conservatives in our churches, our politics, our county and state organizations. It is true that they have their uses. They serve as good ballast and when we, as progressive practitioners, fly too low, we can throw them overboard for ballast and go bravely on without them.

Though we seldom refer to it, you probably know what finally reached our conservative brother and brought him into camp was touching his vulnerable spot, "that old pocket-book of mine," for when that precious possession was appealed to, we came, he saw, we conquered.

Now as an organization, we are an object of interest and admiration to progressive medical men in many states. Some time ago I was present at the annual session of the state medical society in Scranton and while there I was several times asked to explain the workings of our organization. On an occasion of this sort, the scientific progress of medicine is what most interests the men in attendance, but if you let fall a word or two about the economic side you will find many ready listeners from the conservative, overcrowded, dead-beat ridden practitioners on the opposite side of the Blue Ridge.

In times now past, we as conservative members of a conservative clan, have entirely overlooked such practical problems as these of organization, economics, ethics and brotherly love. Now that we have paid some little attention to these vital questions as progressive men, we can already see good results.

And now let me close my short address by getting down to the personal element in our organization, the physician, the member himself. The individual in our organization, is either our source of greatest strength, or our weakest spot.

I want to ask you, individually, what you are personally doing for the good of our cause, for the good of the medical profession, and for your own good professionally. In county society work, in our state society, in the American Medical Association and in our own home pet organization, the Red Bank Physicians' Protective Association, are you doing your part as a man and a member?

It is hard to get away from the old ruts of jealousy, commercialism and conservatism, particularly for the man who is in an isolated community. Nevertheless, the point will stand that the really progressive, scientific and altruistic physician will never allow himself to get into such a rut. We have carved our way as an organization, beyond the hopes of many and in spite of the objections and sneers of a few. This minority is gradually coming over to the progressive ranks, dying off, or being thrown out for ballast. Why can we not then, as individuals, throw off our pretense of conservatism, attend our local Red Bank Physicians' Protective Association meetings and develop the social and better part of our nature?

Attend your county society meetings, so that you may not get behind the profession in new knowledge; not only attend these meetings but take part and do your part as a progressive physician ought.

Attend your state society meeting, if at all possible; meet live wide-awake colleagues and investigators and get a broader view of your professional brethren in general.

I am sure that the general condition of the profession round about us has improved and is improving since our organization.

The JOURNAL has given us recognition, in printing Dr. Coulter's article on the Red Bank Physicians' Protective Association. Our little organization now numbers over two hundred members. It has grown rapidly and it is not a mushroom growth, but it will continue to grow just as the water from the Red Bank ultimately reaches the sea, so will the association or similar organizations spread from coast to coast. Personally, let us each remember that "the tiniest wave of influence set in motion, widens and spreads to the eternal ocean."

Are you a progressive member of this organization, or are you still on the conservative side? If you are not a positive influence for the good of your fellow practitioner, then you must be classed as a negative one, and a being intent solely on self and personal gain. You must sacrifice some time and money for the good of the cause, but you will gain largely in self-respect, professional standing and efficiency.

In closing, remember that you can not serve two masters, and if you are not advancing professionally you are falling back.

It is particularly true in our professional work that:—

"New occasions teach new duties;
Time makes ancient good uncouth;
They must upward still and onward
Who would keep abreast the Truth."

MILK, IN ITS RELATION TO DISEASE, ESPECIALLY INFANT MORTALITY.

BY T. HOWARD WERTZ, M.D.,
Hanover.

(Read before the York County Medical Society, August, 1912.)

The production, care and food value of milk, its significance as causes and carriers of disease, and its special reference to infant mortality have, for the past twenty years, been subjects of more than ordinary import through the country.

Not only are physicians, health officers and milk experts interested in the warfare for pure milk, but many institutions, various societies and men of philanthropy have recognized the importance of the great problem, as it concerns the wealth and health of a nation, and have established suitable places throughout most cities. They not only furnish a pure milk free or at a nominal cost but, in connection and managing the same, have efficient officials who conduct an educational campaign as well.

The question of sanitary milk is to the American people especially pertinent. Milk is perhaps used to a greater extent in this than in any other country. It holds a particular place in the nation's dietary because of its varied applicability, containing as it does all the essentials of a perfect food, proteid, carbohydrate, fats, inorganic salts and water; it is capable of almost universal use. Because of this and, in addition, its facility of ingestion and comparative ease of digestion, it constitutes an important food for the sick and convalescent.

Even of greater importance is the use of cow's milk as a substitute for mother's milk in infant feeding. It will be perceived that those most dependent upon this food, the sick and convalescent, infants and children, constitute that part of the community suffering the greatest injury from the use of a food impaired in its nutritive content. This is due to the fact that they are least able to resist the harmful effects of food contaminated by toxins or pathogenic microorganisms.

While improved conditions of living have contributed to a steady decrease of the general mortality in civilized countries, this unfortunately does not apply to the infant population under one year of age. It is recognized that gastrointestinal disease is the largest single factor determining infant mortality, a condition in great measure due to improper methods of feeding. This enormous loss of life is of grave concern to the state and worthy of most careful consideration. It is especially for these reasons that the question of sanitary milk and its relation to the public health challenges our best endeavors.

In nature's method for the nourishment of the young, milk was never intended to see the light of day, and if sucked from the normal healthy breast is a perfect food for the offspring. In this natural method of providing nourishment, there is little possibility of contamination from outside sources. But as soon as the artificial method of drawing milk is resorted to, there enters into consideration a whole set of conditions entirely new and different. The milk then comes in contact with air, with the vessel in which it is drawn, and with particles of dirt from many sources. Various bacteria find their way into the milk and as a consequence, contamination of the milk supply.

The best substitute for mother's milk is popularly recognized as the unadulterated product of the cow, free from disease and dirt, and should be so handled in its production and on its way to the consumer as to arrive in practically as good condition as when shipped.

Milk experts have come to consider milk from its physical, chemical, bacteriological, and economic sides, and demand not only a milk which is pure in so far as bacteria and other contaminations are concerned, but fit chemically and physically for the various purposes for which it may be used. They recognize further not only its economic value as a substitute for breast milk, but its increased value as a wealth producer. Its use as a food in every household makes it a staple product. It is therefore not only a great benefit to the users of milk, but the producers find it a source of great revenue; it has helped to make farming more profitable than heretofore.

Those interested in the study of milk and the prevention of needless infant mortality are deeply impressed by the great efficiency of good milk as a conserver of life, and by the immense mortality in those places where good, pure milk can not be obtained by those who need it most. Just how milk should be fed to the child has been a matter of various opinions. Most pediatricians, however, preferably prescribe pure raw milk, certified by some reputable milk commission. Many modes of modification and many artificial products, intended to replace cow's milk, have been used, each with more or less success. The majority of pediatrists regard them more as a medicine than as a food, and only as such should be used; so that whenever pure cow's milk, properly modified, can be had, the same should be used.

When cow's milk first became an important adjunct in infant feeding and food supply, certain methods became necessary to keep the same in as good condition as possible until used. Then various preservatives, such as formaldehyd and salicylic acid, seemed to meet the requirements best. This continued until the consumer decided that he preferred to drink each one separately. Boiling milk was much practiced to keep it sweet. These methods of preserving milk were followed by many disturbances of digestion and diseases of nutrition; the life of the milk had been destroyed.

Later the bacteriologist discovered that heating the milk at a certain temperature would destroy practically all the pathogenic bacteria, the structural constituents of the milk not being interfered with, and at the same time preserve the milk and make poor milk good so far as bacteria were concerned. Pasteurization then, as well as now, had many adherents, and it may be accepted for the present as being the best possible method of taking care of the larger part of the milk consumed. It should be understood, however, that pasteurization is not recommended as a cure for all the ills of the milk business, for no amount of pasteurization will make bad milk good.

Coincident with the improvement of the milk supply came recognition of the fact that many diseases of nutrition were avoided, and with this important discovery came renewed efforts to better the milk supply. The results of these efforts can be best appreciated by the increase and importance of the medical milk commissions throughout the United States.

But the real beginning of the pure milk crusade began in 1894, when the Washington Medical Society appointed a committee of three, headed by Dr. L. W. Macgruder of Georgetown University, to investigate the cases of typhoid and other epidemics in the District of Columbia. After many investigations into the water and milk supply were made and the causes and carriers of the different epidemics established, various recommendations were made by this committee. Chief among them was that requiring the inspection of all dairy farms and a permit from the health officer before milk could be sold in the District of Columbia. March 2, 1895, by an act of Congress, the complete recommendations of the committee were approved. Dr. Kober's investigation in 1895 confirmed every point made by the committee. This made Washington the first city in the country to demand inspection of all dairy farms and the establishment of milk depots in the city.

These investigations developed two new facts; namely, the percentage of imported cases of typhoid and other diseases through the milk and water supply and the agency for flies in the transmission of disease. This committee, composed of Drs. Macgruder, Johnson and Hammett, recommended a score-card system of inspection of milk and water. This system has grown so popular that nearly every city in the United States has adopted it.

The health of the cow is particularly essential in the production of pure milk. She should be free from disease and in good physical condition; the stable should be clean, well lighted, and ventilated. The tubercular test should be applied about once a year by a competent veterinarian, and all reacting animals removed. This would not only protect the milk, but would safeguard against the rest of the herd. The cleanliness of the cow is another very important factor; the dust and dirt which hangs to the cow is largely responsible for the contamination of milk.

Estimates in 1910 had been made as to how much dirt or manure was consumed by citizens of different cities in a day. New York, for instance, is said to have consumed about two tons of manure daily; Berlin about three hundred pounds daily. Philadelphia had 4053 milk dealers in the year 1911, and if each dealer sold one half a pound of dirt, the people would drink over a ton a day.

There are approximately two billion gallons of milk sold in the United States annually, about twenty-five gallons to each person, and at the estimated rate of dirt in most milk, there would be consumed about forty tons of manure every day. This may be overestimated but the fact remains that there is too much dirt in most milk. Prerequisite therefore to the production of pure milk is scrupulous cleanliness from beginning to end and next thereto a healthy cow.

Each year the handling of milk in each city becomes a problem of its own. In small towns where milk is had from nearby dairies and the time of production and delivery is very short, the same rules adopted in the larger cities are not necessary and are a source of needless expense. The larger the city, and the greater the milk shed from which milk is shipped, the more the delay in handling much milk, and, for this increased delay, a more rigid system must be adopted in the handling of the same.

Dr. A. D. Melvin, chief of the Bureau of Animal Industry, would divide milk in three classes; namely, certified, inspected and pasteurized. The first is produced under the most rigid sanitary inspected system and is the best for the babies. It has a low bacterial count. The second, or inspected milk, is that produced under best hygienic conditions from tuberculin-tested herds, and is recommended for adult or table use. While the balance, which mostly has a high bacterial count, is apt to be contaminated, and should be pasteurized, is recommended principally for manufacturing purposes.

Lederle, of New York, under whose supervision the city of New York has established the best system of handling milk in the world, divides milk into three grades, very similar to that of Dr. Melvin, with the exception that grade C need not be pasteurized and is restricted to manufacturing only under special permit from the Board of Health, while grade A, or inspected milk, is to be sold in bottles only and is intended for infants and children. Bacterial count must not be over 50,000 per cubic centimeter when milk is sold. Grade B is regarded as suitable for adults and as a beverage. All milk included in grade A will fill all the requirements of grade B. In addition the second grade will include raw selected milk, conforming to the regulations for inspected milk in Grade A, but substituting the physical examination of herds for the tubercular test. Grade B will also include milk pasteurized under the regulations of the department.

It would be an unnecessary waste of effort to attempt to raise the entire city's supply to the standard of milk for infant feeding, yet the tendency hitherto has been to work on this basis. Each city has its own milk problem to solve, and I should say that there is no milk that is too good for anyone. In New York all milk is supervised by the Board of Health through milk stations under milk inspectors. Philadelphia has recently passed a bill compelling all milk sold in the city to be bottled. The trend of the modern milk question has been to establish milk commissions and milk depots.

Perhaps one of the most significant accounts of the good which milk stations have accomplished is that published by the Committee on the Reduction of Infant Mortality, a part of the New York Milk Commission. It states that out of 125,000 babies born in New York annually, 16,000 die under one year of age, and of this number more than fifty per cent. waste away from want of proper food and care. It has been proved that these babies need not die if the mothers can be taught how properly to feed and care for them, if pure and properly prepared milk can be supplied at prices which they can afford to pay, and if mothers who have been, through poverty or over work, illy prepared to nurse their babies can be so nourished and rested as to be able to give the natural food to their children. In the summer of 1910, out of 100 children, rich and poor, born in New York, 17 died. In the infants' milk depot, maintained by the New York Milk Committee, only 20 babies died out of 350, and only one died from improper feeding.

One of the most important relations of milk supply to public health is the quantity as well as the quality of the supply itself. All milk commissions have great difficulty in inducing producers to supply milk of proper quality, because the quantity called for does not make it profitable business. To produce milk of a proper quality is an expensive undertaking, and until the general public is educated to the point of being willing to pay a fair price for a first class milk, just so long will dairy men be loath to expend the time, energy, and money necessary to supply in quality and quantity such a milk as might be used everywhere to the great advantage of those who need it.

The production of pure milk, free from all contamination, therefore resolves itself into one of education of consumer, producer and dealer. Farmers have never studied bacteriology, and many doubt the existence of such a thing as a germ. Some have never heard of such a creature. I believe the best place to educate is in the public schools where a course in sanitation should be a compulsory part of the curriculum. Sanitary education is better than sanitary legislation.

Many diseases are directly traceable from diseases of the cow and many others to contamination. Tuberculosis is possibly the most frequent. Theobold Smith isolated bovine tubercle baccilli in 12 out of 28 cases of tubercular cervical lymph glands. He estimates that from 25 to 50 per cent. of the cases of human tuberculosis starting in the cervical and mesenteric lymph glands are of bovine origin. Dr. Ruhrah of Baltimore says that the transmissibility of bovine tuberculosis to man is much overestimated. Prof. Koch also is of the same opinion. The results of recent tubercular tests of milk supplied in the District of Columbia shows that between 15 and 25 per cent. of all cows are tuberculous. The supervisions of the Bureau of Animal Industry showed that in 2471 tests of cattle from herds supplying milk in the District of Columbia, 377 were found tuberculous, or 15.23 per cent. This percentage is a fair average of the prevalence elsewhere.

Other diseases of the udder, some of a streptococcus origin causing diseases resembling scarlet fever, are transmissible. Typhoid fever is perhaps the most frequent disease transmitted by the milk supply. Kober in 1901 reported a series of 330 outbreaks of infectious diseases that were spread through the milk supply. These outbreaks consisted of 195 epidemics of typhoid fever, 99 of scarlet fever, and 35 of diphtheria. In 148 of the 195 epidemics of typhoid fever there was evidence of the disease at the farm.

There are many more epidemics in America than in Europe, the reason of which is that, on the continent, milk is rarely used without being boiled.

In the fall of 1908, over fifty cases of typhoid fever in Washington, D. C., were traced to the supply of milk from a single farm. An example of an epidemic of scarlet fever in Rochester, N. Y., which occurred in March, 1905, the cases of scarlet fever occurred in twenty-five families, widely scattered, and people having no social intercourse, the only thing common was that most of the twenty-five families received milk produced on a farm where a woman, convalescent from scarlet fever, had returned to milking the latter part of February; in addition her children just had scarlet fever.

In Baltimore recently there occurred twenty-three cases of typhoid fever among the employees in a factory; the factory served dairy lunch. The milk was traced to a farm whose water was found polluted. Throughout the country various epidemics of typhoid fever, diphtheria, and scarlet fever might be cited; nearly all can be directly traceable to the contamination or pollution of the milk or water supply. Last winter an epidemic of a new malignant sore throat made its appearance in different sections of the country. Dr. Melsheimer had several severe cases. But in Baltimore it was severest. It found victims in the families of Dr. H. C. Jones, assistant health officer of Baltimore City, and that of Dr. Magruder. Drs. Standish McCleary and William R. Stokes, of the College of Physicians and Surgeons, isolated the organism and fully described the same with pathological lesions. It was spread through the milk supply. Dr. Hershberg has isolated some fifteen or twenty varieties of streptococcus infecting the throat, each producing serious systemic effects. Their relation to the milk and water supply was amply demonstrated.

Intestinal diseases, such as the diarrheas, are transmitted through the milk and water; chiefly among them is that caused by the Shiga-Flexner bacillus.

In small towns such as York and Hanover the milk problem is equally important. In Hanover for instance, the prevalence of diphtheria is found most continually and many children are claimed in its wrath. The schools have been held largely responsible, but I believe that not until the health authorities conduct a systematic search for the source of infection or contamination of its milk and water supply will its progress be stopped.

In conclusion, it can no longer be doubted that dairy products, including milk, cream, ice cream, butter and cheese are excellent culture media for pathogenic bacteria. Outbreaks of typhoid fever, scarlet fever, diphtheria, different varieties of sore throat, and intestinal disorders of children have been definitely traced to contaminated milk and water. The proofs of tubercular infection from these products, and that the diarrheal diseases of infants are generally due to improper food, are accumulating daily.

To capitulate briefly: The public should be educated (1) as to the value of pure milk and its relation to disseminating diseases; (2) scrupulous cleanliness in its production and care; (3) the physical condition of the cow; (4) that pure, clean, raw milk is better than milk pasteurized or sterilized; (5) that raw, clean milk modified to suit the individual infant is the best substitute food; (6) that because of the possibility of transmission of bovine tubercle bacilli, tuberculous cattle should be eradicated; (7) because of the agency of milk and water as carriers of disease, the same should be inspected by competent inspectors; (8) the importance of milk depots in every city, properly regulated; and (9), lastly, but not least, swat the fly.

MY PLAN FOR PLACING HOMEOPATHY ON A PROPER BASIS AS THE SCIENTIFIC THERAPEUTIC RESOURCE OF MEDICINE.*

BY FRANK F. CASSEDAY, PH.B., M.D.,
Portland, Oregon.

(Read and endorsed by the Round Table of Homeopathic Physicians of Portland, Oregon.)

All great movements for the betterment of mankind, if vigorously pushed at the psychological moment, secure an impetus which carries them to successful issue.

Homeopathy as an organized movement to cure disease has been in the doldrums for the past ten years.

Homeopathic colleges are losing students, homeopathic departments in state universities are being thrown out by the pernicious political activity of the old school enemies of homeopathy, homeopathic physicians are allying themselves with old school medical societies (being hugged to death by the old school organizations as a witty old school physician of Canada aptly puts it), and the younger men are joining old school societies in large numbers and abandoning the use of remedies selected according to the law of similars.

Homeopathic physicians are fighting among themselves, cliques in cities exhaust themselves fighting each other over silly inconsequential matters, while the common enemy, the old school doctors and organizations, are driving in the outposts and breaking down the homeopathic organization by every means, fair and foul, in their power. They win over the homeopathic physician by flattery and cajolery, and after he is brought into camp he is hugged to death.

Homeopathic societies have a small membership; their numbers show little enthusiasm over homeopathy, and seem to act on their own initiative with fear and trembling lest the scorn of old school physicians will make them pariahs of medicine. They have wish bones where their back bones ought to be. They shilly-shally. They lack the courage of their convictions if they ever had any about homeopathy.

Is the time ripe for homeopathic physicians to declare themselves boldly before the world? Is the law just as true as it was in Hahnemann's day? Is there a working method by which it can be accomplished so that homeopathy can be placed on a proper basis before the entire world of laymen as the only scientific therapeutic resource of medicine? To all of these I answer, yes.

Let us see. The old school has laid down on the job. They declare flatly that there is no efficacy or merit or curative properties in drugs administered internally. Practically all old school physicians ignore special therapeutics with the exception of iodids and mercury for syphilis and quinin for fevers. The patients of old school physicians are drifting away to the religious cults, except those who go to homeopathic physicians who are holding up the banner of homeopathy as individuals. The old school is clutching at every will-o'wisp which promises help as a specific, only to give them up as new promoted specifics loom up on the horizon. The modern method of placing so-called specifics on the market by foreigners through the free utilization of the press agencies is the smoothest and cheapest method of patent and secret medicine advertising the world has ever seen. It has American advertising of patent medicine beaten to a frazzle. And the funny part of it is that the wise old school doctors fall for it and fall all over each other to beat one another to it; meanwhile waving their money in the air and anxious to give it away (the money). Every scientific demonstration and discovery made in the great fields of collateral science like astronomy, industrial chemistry, physics, and experimental physiology are slowly but surely consigning their theories to the graveyard of medical fads. The germ theory is an unstable ground and will probably be discarded as the field of demonstrable activity of matter is widened by the spectroscope, the ultra microscope, and other instruments of precision. Carrell, in his physiological experiments, announced a few days ago in referring to the fluids for promoting healing of wounds, that the fluid from the dog heals the wound on the dog, but not on the man. The fluid from the guinea pig heals the guinea pig, but not the dog, and *vice versa.* The fluid from the horse will heal the wound on the horse but not the wound on the man. That is a body blow at the whole theory of serums from animals for human ailments, and adds more force to the theory that the body contains within itself a chemical laboratory which, if properly reinforced by wise administration of drugs, will do the work.

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*The Hahnemann Monthly April, 1913.

This is the condition of the medical field to-day.

The law of cure is just as true to-day as ever, and investigations in all experimental fields of science emphasize it.

Shall we sit quietly and allow the old school pirates to steal homeopathy and the law, relabel it, and place it before the world as a newly discovered law? They will do it as sure as we are living men, and if we do not bestir ourselves the ground will be cut from under us, and we will be left stranded.

Now as to my plan.

Did you ever know of any great movement, even if it has merit, which succeeds in enrolling adherents in large numbers without systematic campaign of publicity? Truth has no inherent power to succeed. Christianity did not become the religion of the civilized world on account of its truth. It came to its present growth and power by incessant work, and war, and the shedding of human blood in streams.

Look at the Mormon church, and the Christian Science church. They are both religious cults and they have the greatest and most complete system of propagandism and proselyting the world has ever seen. The Christian Science church has a bureau of publicity with its head in Boston, and a representative in every considerable town who answers adverse criticism of the cult, and leads the systematic dissemination of the doctrines and by the most insinuating and persuasive methods breaks down opposition and at the same time secures converts to the faith. The head of the publicity bureau in Boston receives a copy of every publication and every clipping which bears on Chrisitan Science in any way, especially adverse criticism. These clippings and papers are supplied by a clipping bureau. These are filed and every newspaper or publication criticising Christian Sceince adversely or making statements about the cult which are incomplete or wrong, though they may not be inspired by enmity or malice, are promptly mailed matter about the cult in handy form for reprinting, accompanied by a personal letter offering the matter as news material. Later brief explanatory articles or articles answering adverse criticism are mailed to these papers signed by the head of the department as a private individual. This complete system is supplemented by lecturers who lecture every year in the principal cities explaining the doctrines of the cult and proselyting for members. It is the most complete and perfect working system of publicity the world has ever produced, and it produces the results.

Homeopathy needs publicity. New generations of people are coming into maturity, who know absolutely nothing about homeopathy, except in a very vague and indefinite way. Old school physicians encourage this by saying there is no difference in the schools to-day, and much more of that line of rot. Physicians have long since ceased to hold themselves out as homeopathic physicians. Is it any wonder homeopathy is dying, slowly dying? If the adherents and practitioners of homeopathy are either ashamed or afraid to publicly declare themselves it is folly to expect the daily and monthly press of the country to take homeopathy seriously. In this generation and in these times it is only active, militant organizations that carry on aggressive campaigns of publicity which will survive or secure supporters.

My plan is a perfected publicity campaign to reach the laity.

This should center in the board of trustees of the American Institute of Homeopathy, or a large subcommittee of the same board.

This should be arranged as follows:—

1. Eliminate the traveling organizer to meet the doctors. There is no need of such a man, as this work can be done better by local men, and the money paid such a man and his expenses will provide funds for the central publicity bureau.

2. A central publicity bureau with a live man in charge, either the man in charge of the entire campaign, or a special man with a faculty for writing medical truths in popular language.

3. A press department. A subdepartment of the central publicity bureau. This department to prepare and send regularly to lists of papers and magazines—classified in a card index, live matter relating to all departments of health and referring to the methods and practice of homeopathy, the good it has accomplished, the lives it saves, the organized institutions of homeopathy, etc., all sent out on slips under proper headings, some short articles and some more extensive, ready for reprinting in newspapers and magazines. Good matter will be received with approval and published, and soon the editors will take notice that there is a great national organization behind the movement, and that it means something for humanity. In addition to publishing the notices sent to the editor month after month and year after year, he (the editor) will presently begin to write editorials about it. The campaign of education of the editors and through them of the laity will lead up to the final plan for:—

4. Public lectures by physicians in all the principal towns and cities in the country. Here is where the plan touches the laity and the doctor and brings them together. The head publicity bureau sends out the literature to the papers, and also sends slips telling of the advantages of homeopathy with comparative statistics free to the doctors, and he in turn mails these to such persons as he desires, enclosing his card therewith. The lectures will be given by local men exchanging courtesies. For instance, a San Francisco man will come to Portland and lecture, and Portland men will exchange with San Francisco, Seattle, Spokane, Tacoma, Boise, Salt Lake, Denver and other cities. In other words, near-by cities and towns by exchanging courtesies can have public lectures given in all parts of the country two or three times a year and year after year with little cost for travel and no salary expense.

The local physicians can pay the advertising, hall rent, and traveling expenses if necessary of the lecturer, though I feel sure many volunteers will pay their own expenses.

To start with, a paid advertisement will be inserted in the daily papers, giving notice of a public meeting in a theater to hear a lecture on homeopathy, and this advertisement would be signed by every homeopathic physician in the smaller cities and a committee in the larger cities. In this way it would carry weight, would not permit a few to profit at the expense of many, and would not be unprofessional in any way. During the lecture small folders sent out by the head publicity bureau together with the small folder of the local physicians giving the name and address and telephone of every physician, surgeon, and specialist in the city. There would be no difficulty in securing the coöperation of each physician in a financial way to such a plan as it would benefit all, and inform the public where homeopathic physicians could be secured.

Some established physicians might object to this plan from selfish motives, others from finicky ideas of professional ethics, but if any physician is honestly desirous of placing homeopathy before the world on the basis of its merit this is a practical, workable plan at a comparatively small cost.

I am pushing this plan and sending out the details of it to the leading men all over the country. It will go, or some plan closely resembling it. If we continue to follow our shilly-shally methods or lack of methods, crawl into our holes, speak softly so not to offend our dear friends, the old school, and refuse to let the public know there are any homeopathic physicians, let us be consistent, order the makings of a first class funeral and awake and give homeopathy a decent burial.

DECANNULATION AND EXTUBATION AFTER TRACHEOTOMY AND INTUBATION RESPECTIVELY.

DR. CHEVALIER JACKSON, Pittsburgh: The different forms of laryngeal stenosis associated with difficult decannulation or extubation may be classified into the following types: 1. Pain. Breathing through the neck with a properly placed tracheotomy cannula is much easier than breathing through the mouth, that once the patient becomes accustomed to it for quite a while he does not feel that he is getting enough air through the mouth, even though the larynx is perfectly patulous. In addition to this there is a nervous cell habit arising from previous experience with the stenosis that terrorizes the patient the moment he feels the slightest dyspnea. 2. Spasmodic. This form of stenosis may be associated with panic, or may be excited by subglottic inflammation. It is usually overcome by the same means as those suggested for panic, together with the treatment of inflammatory conditions that may be present. Doubtless one of the chief causes of adductor spasm is the prolonged wearing of the intubation tube. 3. Paralysis. Bilateral ankylosis of the cricoarytenoid joints may prevent decannulation until the laryngeal stenosis is relieved. This operation is not to be advised except in such cases as have remained rigid for a period of twelve months or more, and this is not meant to include the fixation that is associated with malignant, tuberculous or luetic infiltrations. 4. Neoplasms. Decannulation in neoplastic cases will depend upon the nature of the growth and its curability. 5. Hyperplastic. 6. Cicatricial, (a) loss of cartilage; (b) loss of muscular tissue; (c) fibrous.

The hyperplastic and cicatricial types of organic stenosis preventing decannulation may be classified as follows: 1. Tuberculosis. 2. Lues. 3. Scleroma. 4. Acute infectious diseases, (a) diphtheria; (b) typhoid fever; (c) scarlatina; (d) measles; (e)whooping cough. 5. Decubitus, (a) cannular; (b) tubal. 6. Trauma, (a) tracheotomic; (b) intubational; (c) operative; (d) suicidal.

Conditions outside of the paralytic and neoplastic forms are almost all the result of inflammation, often with ulceration and the secondary tissue changes. In the infective granulomata it is practically always the mixed infections from oral sepsis running that do the harm. The chief exception to this is diphtheria, which is in many cases a distinctly necrotic process.

In the rare cases in which laryngeal tuberculosis of such severe type as to require tracheotomy is cured, decannulation presents little difficulty after the infiltrations are reduced. The reduction of these infiltrations by the galvanocautery through the laryngeal speculum is readily accomplished. Should cicatricial stenosis from ulceration remain, it is to be treated in the same way as cicatrices from other causes—by laryngostomy. In those old cases of luetic fibrosis little amenable to the older methods of treatment, salvarsan has accomplished wonders. Dr. Emil Mayer has recommended the use of radiotherapy in the treatment of scleroma. So far, however, the results have been so unsatisfactory that they practically constitute the only cases in which decannulation is impossible. When typhoid fever was prevalent in Pittsburgh it was found that the ulcerative lesion in the larynx was practically always the result of mixed infection, but in some instances they were due to thrombosis of a small vessel with subsequent necrosis. The after-treatment of these cases is chiefly by prolonged intubation, and in some cases by laryngostomy. Scarlatina may be followed by acute laryngeal stenosis which is cicatricial. Occasionally foreign bodies may ulcerate through from the esophagus into the trachea. A properly fitting tube will not cause any ulceration, if it is free from roughness or sharp edges and is removed sufficiently often to be cleaned. For diphtheria and like conditions I have never seen any improvement on the original O'Dwyer apparatus. When a tracheotomized case reaches the stage when it is to be trained to breathe through the mouth, it is necessary to occlude the cannula. For the reduction of exuberant granulations, nothing has yielded better results than resorcin. As a stimulation to epitheliazation the German preparation "scarlet red" (Biebrich) in a sterile 20 per cent. mixture has yielded excellent results during laryngostomy. One of the most common causes is the neglect of frequent changes of dressings.—Abstract of a paper read at the Thirty-fifth Annual Congress of the American Laryngological Association, May 5-7, 1913, Washington, D. C.

FROM THE CANCER COMMISSION OF THE MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.

CANCER AXIOMS.

1. Cancer in its early stages is always a purely local disease, permanently curable by complete removal.

2. If you wait to see what develops the cancer may spread beyond hope of cure.

3. Pain and cachexia are not signs of cancer. They are signs only of impending death.

EARLY WARNING SIGNALS OF CANCER.

1. Of the Breast: Any lump. In a woman over thirty-five it is cancer in ninety per cent. of cases.

2. Of the Uterus: (*a*) Any irregular bleeding. (*b*) Change from an ordinary type of menstruation to a profuse type after thirty-five. (*c*) Onset of a discharge. (*d*) Change from a simple discharge to one that is more profuse, more irritating and fouler.

3. Of the Skin, Lip or Mouth: (*a*) Any sore that will not heal. (*b*) Any wart or mole that increases in size or begins to bleed.

4. Of the Alimentary Canal: (*a*) "Indigestion" that will not promptly yield to proper treatment. (*b*) Onset of colicky pains or intractable constipation in an individual over thirty-five.

Make an Early Diagnosis and Act at Once.

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The Medical Society of the State of Pennsylvania does not assume responsibility for any statements or opinions published in this Journal.

ATHENS, JULY, 1913.

POSTGRADUATE TRAINING.

With the conferring of the academic degree of M. D. and a state license to practice, postgraduate instruction usually begins with an internship lasting anywhere from one to three years. For the general practitioner a one-year term probably represents the best conservation of time. This formerly was the almost universal custom in hospitals. The time was increased not for the benefit of the resident, but for the advantage of the hospital, since this institution then reaped the help accruing from the services of the man trained to his work.

That the hospital should exact this added time is absolutely proper, it being a payment for education received, but that it is desirable from the standpoint of the individual is greatly to be doubted. During his entire service the resident is certainly acquiring increased experience and ability to deal with the problems which will confront him in private practice. His probable rate of progress is, after his first year, not as rapid as it would be were he at this time beginning his professional career in the place he has chosen for it.

After one or more years of work in a community the able, ambitious and far-seeing man invariably feels the urgent need of further training and usually in certain definite directions. This further training is afforded to an extent by current literature, of which practically the entire profession avails itself; by county, state and national meets attended by comparatively few physicians; by clinical meets either on the part of small organizations composed of men working in special lines, banded together for mutual improvement and coming together once or twice a year, or oftener, for the purpose of actually seeing each other work, as for instance, the Society of Clinical Surgery and the Interurban Club; by national clinical meets, as for instance the Congress of Clinical Surgeons of North America, the phenomenal growth and popularity of which well attests the need of such an organization; by visits to the college of graduation or to other centers of medical and surgical activity either at home or abroad, or preferably both; by special courses in polyclinics or postgraduate schools.

In whichever of these ways it be attained the desired end is a familiarity with modern concepts and modern practices and therefore increased skill in the prevention and cure of disease.

The formal meetings of medical societies are not largely attended simply because they do not give the men what they want. It is held, and rightly, that in the main nearly as great profit will accrue from the reading of proceedings as from the hearing of them and this is to an extent true, except that the reading is too often indefinitely postponed. Also it is true that those who fail to attend these meetings miss that indefinable yet most potent stimulus, and the many practical suggestions which come from personal association with their fellow workers.

To a man who has labored for many years in one place and been so busy filling the requirements of his position and making a living for himself and family that he has not kept up even with current literature the sudden awakening, usually incident to a younger and better trained man coming into his community, will probably find its most useful expression in taking a voluntary more or less complete fourth year course in a standard medical college Such a man needs a general education on broad lines and the nine months devoted to this would do more for his efficiency than an equal period of time applied to special courses in various centers. During or after such a course he could very properly select a special line of work and by choosing centers where this was best developed familiarize himself both theoretically and practically with all that is best.

For the younger man with a good modern fundamental medical education who has selected his special line of work, either medical or surgical, a course of travel, visiting the medical or surgical centers of the world and staying long enough in each to catch the underlying spirit rather than peculiarities of minor practice, seems most advisable. This readily may be strengthened by special courses in the use of instruments of precision.

For all men, young or old, specialist or one practicing generally, the clinical meets afford in the briefest space of time the largest opportunity for observation of the best modern theory and practice. A realization of this fact has powerfully stimulated the organization of such clinical meets and is the underlying motive which has suggested the really superb program offered by Philadelphia on the day preceding and the day following the meeting of the Medical Society of the State of Pennsylvania. During these two days the best medical, surgical, laboratory and hygienic methods of the day will be practically demonstrated by men thoroughly competent each in his own line; no more competent than the hundreds of practitioners who will attend these meetings, but sufficiently specialized and experienced in certain directions to make these demonstrations instructive and helpful to those who have been working on broader lines. Thus, for instance, the subject of syphilis from modern standards will be completely covered; the tests, the manifestations of the disease shown by clinical cases, the detailed modern treatment, with exhibition of technic, the variations, the prophylaxis, the bearing upon mortality, the prognosis, all subjects upon which new light has been thrown, much with which the general practitioner has not been in position to become familiar.

There will be a concerted clinic on fractures, the conservative and the radical treatment, and the newer concepts concerning the application of dressings. There will be demonstrated the entire curability by proper dressing of the so-called intracapsular fractures of the hip. The more recent and efficient splinting of the shoulder fracture will be shown and operations will be performed on the cases calling for this treatment.

The most useful and widely applicable laboratory tests will be actually made and the applications indicated. Hundreds of operations will be performed. Indeed it is difficult to imagine a more instructive two days than that offered out of the abundance of clinical material and with a full realization on the part of the Philadelphians that they are able to offer it mainly because of this richness of material. E. M.

THE PHILADELPHIA SESSION.

Philadelphia is peculiarly well adapted to take care of the state society during the next annual session in the week beginning September 22. Bellevue-Stratford hotel, which has been selected as the headquarters, is within easy reach of the railroad stations and in close proximity to this center are a number of other large and comfortable hotels. The meetings of the various sections, and of the House of Delegates, and the President's Ball will all be held in the headquarters hotel. Horticultural Hall, which has been selected as the place to hold the commercial exhibit and the scientific and pathological exhibit, is but a square away.

The success of the meeting for women and of the one evening meeting held in Scranton has led the committee on scientific business to have another meeting for women on Wednesday afternoon, and three evening meetings. The one on Tuesday evening will be devoted to a cineomatographic exhibition of a new series of cases of nervous diseases, and serial radiographs of abdominal conditions. Thursday evening will be devoted to that subject which of late has been causing so much interest in the profession; namely, hospital and dispensary abuse. While the profession at large believes that there are many abuses of our present system of taking care of patients in the hospitals of the state, no definite and concrete method, which will be just to all, has yet been established. With two speakers on this subject and a free discussion, additional light should be thrown upon it. It has been arranged to hold a meeting open to the public on Friday evening, when some subject, important to the laity and the profession alike, will be discussed. The public is beginning to appreciate the work of the medical profession and is eager for further instruction. It is incumbent upon us to show the people how we are constantly endeavoring to conserve their health and protect them from preventable diseases.

The programs of the various sections are now about completed and abound in excellent papers on practical subjects. Symposiums and joint meetings between sections have been arranged for the discussion of border-line subjects.

The society has been able to secure many instructive and revolutionary moving pictures of pathological subjects for demonstration in the afternoons, after the section meetings have adjourned. The progress of medicine frequently follows strange and most unexpected lines. One finds it hard to realize the possibilities of such demonstrations as those with the cineomatograph, an instrument which was designed originally for entertainment, but lately used as a means of medical instruction and already proved an agent of great value. Surgeons are using this instrument for demonstrating to their classes the different stages of an operation. The physiologists and research workers are using it to demonstrate the results of animal experimentation; in this way it becomes less necessary to repeat such operations. The internists use it for the diagnosis and demonstration of thoracic and abdominal conditions. The latest films available have been secured for our use during this meeting.

All of the large hospitals of Philadelphia with their corps of teachers have been drawn upon for a series of clinics before and after the session. These clinics will demonstrate the latest operations, the most improved technic in diagnosis and the most approved methods of laboratory diagnosis. The clinics, as already announced in part in the April Journal, have perhaps never been exceeded and seldom equaled in any medical meeting. The session in Philadelphia bids fair to be the most important ever held by the state society. The local committee on arrangements has been working steadily to make it, in the small particulars as well as the large, an unqualified success. In addition to the usual diversions of a large city, the entertainment of the ladies accompanying the members of the society has been well provided for. S.

THE MINNEAPOLIS SESSION.

The Minneapolis Session of the American Medical Association was a success in every way. There were 3246 physicians registered, a larger number than was anticipated by any one. From Pennsylvania there were seventy-nine. The opening addresses were more than interesting and will be found printed in the *Journal of the American Medical Association* for June 28.

The section meetings were well attended and the programs were interesting and profitable. Nothing but live papers and discussions would have so packed the section rooms on those hot days with coatless men and a good sprinkling of earnest women. Free lunches were provided at noon for those registered at the section meetings and the members then appropriated the shady lawns upon the campus for a social hour, or visited either the scientific or commercial exhibit before resuming section work. It is doubtful if the members of any former session gave closer attention to scientific work, but it must not be inferred that social events were neglected. Every opportunity was offered the ladies for entertainment and trips to the numerous parks and lakes in and around Minneapolis and St. Paul. The twin cities spared no efforts to furnish a pleasant week for the visiting physicians and their guests, and those who were so fortunate as to attend will remember the Minneapolis Session with delight. S.

THE HOUSE OF DELEGATES AT MINNEAPOLIS.

The Medical Society of the State of Pennsylvania was represented in the House of Delegates of the American Medical Association at the Minneapolis Session last month by Drs. George W. Guthrie, Theodore B. Appel, William T. Hamilton, W. Rowland Davies, A. Wayne Baugh, John Foster and Lowell M. Gates. The three last mentioned served as alternates for Drs. Luther B. Kline, Thomas D. Davis and John B. McAlister. The seats of Drs. Fussell and Lowman were not occupied.

The reports of the officers and committees showed the Association to be in a prosperous condition and successfully prosecuting scientific and altruistic works. The by-laws were amended so that a member of a component state society becomes *ipso facto* a member of the Association. This official recognition of the rights of a member of a component society overcomes what to some has seemed an incongruity, when members of a state society who were not members of the American Medical Association have participated in the election of members of the House of Delegates of the American Medical Association. This membership, however, does not carry with it subscription to the *Journal of the American Medical Association,* nor does it grant certain other privileges heretofore belonging to those designated as members. Members who make application in proper form and subscribe for the journal of the Association become what are properly called "contributing members" and are to be known as Fellows of the American Medical Association. For more complete elaboration of this change see page 567 of the PENNSYLVANIA MEDICAL JOURNAL for April, 1913.

Dr. Victor C. Vaughan, Ann Arbor, president elect, who is well known as dean of the medical department of the University of Michigan, as well as for his scientific and professional attainments, is in every way well fitted to lead the greatest organization of medical men in the world.

The selection of Dr. Lillian H. South, Bowling Green, Ky., as third vice-president was a well-deserved tribute to Dr. South, to our women members and to advancing progressivism.

The hearty ovation given Dr. A. R. Craig on his reëlection as secretary without opposition was especially pleasing to Pennsylvanians, who for years have appreciated his worth as well as that of his father before him.

For the meeting place in 1914, Atlantic City, Louisville, Atlanta and Washington were considered. A committee recommended the great seaside city, and Atlantic City easily won on first ballot. S.

ORGANIZERS AT WORK IN PENNSYLVANIA.

There are several canvassers now at work in this state representing jointly the American Medical Association and the Medical Society of the State of Pennsylvania. They are working under the direction of the state secretary, the councilor for the district, and the officers of the county society. The canvasser solicits applications for membership in the county society only from such physicians as are reported by the officers of the society as probably eligible for membership. Mr. F. V. Cargill, Chicago, began work in Luzerne County in March and that county society has already elected forty members whose applications were secured by Mr. Cargill. A county society wishing the services of an organizer, without expense to the local society, should make application to the state secretary, expressing its willingness to coöperate in the work. S.

CHANGES IN MEMBERSHIP OF COUNTY SOCIETIES.

The following reports have been received since the June JOURNAL was printed:—

ALLEGHENY COUNTY: *New Members*—Christian C. Bippus, Frank C. Blessing, John P. Duggan, Henry C. Flood, Paul B. Grogin, Presley M. Lloyd, William E. Munroe, Calvin R. Rickenbaugh, John P. Salling, John L. Steffy, Frank J. Walz, Edgar S. Weimer, Pittsburgh; John J. Kolski, Braddock; David B. Ludwig, Pitcairn; Carl Wagener, Swissvale; William M. Barnett, Wilkinsburg. *Transfers*—Daniel B. Kreider to Cumberland County Society; Charles J. Steim to Armstrong County Society. *Death*—Llewellyn C. Manchester (Rush Med. Coll., '89) in Pittsburgh, June 13, aged 50. *No Longer Members*—Joseph W. Asdale (left state); John R. McCurdy. *Removal*—William J. Walker from Homestead to 2905 East Fourteenth Ave., Denver, Colo.

ARMSTRONG COUNTY: *New Members*—J. William Bierer, Kittanning; Charles J. Steim, Kittanning (by transfer from Allegheny Co.), *Removal*—Henry K. Powers from Kittanning to Oakmont (Allegheny Co.).

Berks County: *New Member*—Charles P. Henry, Reading.

Blair County: *New Members*—Luther Fleck Crawford, David Fulkerson Glasgow, Thomas Tobin, Tyrone; Emil Reith, Altoona.

Cambria County: *No Longer a Member*—Melville M. Palmer. *Removal*—Marvin W. Reed from Colorado Springs, Colo., to Wilkes-Barre (Luzerne Co.).

Center County: *Removal*—Charles L. Allen from Lemont to Dorranceton (Luzerne Co.).

Cumberland County: *New Members*—Daniel B. Kreider, Mt. Holly Springs (by transfer from Allegheny Co.); William E. Peters, P. W. Wagoner, Carlisle.

Delaware County: *New Member*—Ross T. Thompson, Moore. *No Longer a Member*—William F. Elgin (removed from State).

Fayette County: *Death*—Hugh Baker (Univ. of Pennsylvania, '01) of Connellsville, in Wilmington, Del., from blood poisoning, aged 45.

Franklin County: *No Longer a Member*—John P. Marshall (left state). *Transfer*—Harry B. McGarrah to Huntingdon County Society.

Huntingdon County: *New Members*—Harry B. McGarrah, Robertsdale (by transfer from Franklin Co.); Alfred J. Hamilton, Cassville.

Lackawanna County: *New Members*—Lucius M. Elsinger, Grace Catherine McMahon, J. F. Zycherwick, Scranton; John W. Lyons, Jessup; Thomas P. Martin, Mayfield.

Lawrence County: *No Longer Members*—Orville J. Heindel, Walter C. Kissinger, James F. Robertson.

Luzerne County: *New Members*—Edward F. Hanlon, Hazleton; Albert Kaufman, Wilkes-Barre; James A. Smurl, Edwardsville. *No Longer Members*—Charles L. Griswold, Louis Segal. *Removal*—William L. Richards from Wilkes-Barre to Huntington Mills.

Mercer County: *Removal*—Augustus M. O'Brien from Scranton (Lackawanna County) to Sharon.

Monroe County: *New Members*—Charles Stewart Flagler, Stroudsburg; Richard Slee, Swiftwater.

Northumberland County: *New Member*—Alfred C. Clark, Sunbury.

Philadelphia County: *New Members*—Henry P. Brown, Jr., Jacob B. Chaiken, William H. Deardorff, Robert Goodman, Norman B. Gwyu, Leopold M. Jacobs, Wilhelmina E. M. Nelson, Frederick S. Park, John H. Remig, William B. Swartley, Philadelphia. *Removals*—James A. Morgan from Philadelphia to 1517 Makikia St., Honolulu, H. Islands; Rufus B. Scarlett from Philadelphia to 78 North Clinton Ave., Trenton, N. J.; George B. Sickel from Philadelphia to Woodlyn (Delaware Co.); Edwin C. Town from Philadelphia to Narberth (Montgomery Co.).

Schuylkill County: *New Members*—Stanley W. Blazejewski, Shenandoah; John G. Strieger, Pottsville. *Removal*—Henry C. Bowman from Mahanoy City to Gilberton.

Warren County: *Removal*—Alfred H. Johausson from Warren to Easton (Northampton Co.).

Westmoreland County: *New Members*—James F. Kelly, Monessen; Philip S. Pile, Latrobe. *Death*—Louis T. Smith (Jefferson Med. Coll., '76) in Trauger, June 28, aged 67.

Present Membership 6100. S.

STATE NEWS ITEMS.

MARRIED.

Dr. David L. Simon, and Miss Mary Stein, both of Pittsburgh, June 15.

Dr. William H. Guy, and Miss Mary Emma Price, in Pittsburgh, June 4.

Dr. Albert M. Cook, New Castle, and Miss Geviu Budesil, at Los Angeles, June 11.

Dr. Lawrence N. Breen, Farrell, and Miss Kathleen H. Faul, Jeannette, June 25.

Dr. James D. Lewis, Scranton, and Miss Myrtle B. Roberts of Clark's Summit, June 18.

Dr. Samuel W. Swigart, Lewistown, and Miss Maude Mabel Mitchell, Wattsburg, June 11.

Dr. William Lawrence Estes, South Bethlehem, and Miss Anne Greble, Washington, D. C., June 11.

DIED.

Dr. Augutus S. Smith (Pennsylvania Med. Coll., Gettysburg, '59) in Lebanon, June 4, aged 73.

Dr. Ralph S. Lavenson (Univ. of Pennsylvania, '03) formerly of Philadelphia, in Los Angeles, Cal., July 6, of tuberculosis.

Dr. William J. Cain (Jefferson Med. Coll., '10) in Pittsburgh, June 28, aged 27.

Dr. Edward Rollin Gregg (Hahnemann Med. Coll., Philadelphia, '92) in Pittsburgh, June 25, aged 43.

Dr. William H. Heck (Univ. of Pennsylvania, '75) in Philadelphia, June 21, from angina pectoris, aged 60.

Dr. Benjamin Lee (Univ. of Pennsylvania, '52) of Harrisburg, in Point Pleasant, N. J., July 12, aged 80.

Dr. Hillary W. Williams (Univ. of Texas, Galveston, '13) in Philadelphia, June 17, from scarlet fever, aged 25.

Dr. Maud Marion Walter (Woman's Med. Coll. of Pennsylvania, Philadelphia, '98) in Reading, June 14, aged 39.

Dr. Amos B. Miller (registration, prothonotary of Berks County), in Lancaster, June 2, from cerebral hemorrhage, aged 68.

Dr. James Madison Linn (West. Penn. Med. Coll., '02) formerly a practitioner of Swissvale, later of Conoquenessing, in Pittsburgh, June 21, from peritonitis, aged 42.

ITEMS.

Dr. J. T. Rugh sailed for Europe, July 5.

Dr. T. P. Simpson, Beaver Falls, sailed for Europe, July 5.

The Elk County General Hospital graduated five nurses in June.

Dr. Charles S. Rebuck, Harrisburg, sailed for the Mediterranean, June 14.

Dr. Charles A. O'Reilly sailed July 15. He will take a summer course in Dr. Chiari's clinic in Vienna.

The Woman's Medical College Alumnae Association has formulated plans to raise an endowment fund of $500,000.

The Philadelphia Laryngological Society held its second annual meeting, June 17. Dr. E. B. Gleason was elected president.

The Chester Hospital and the Crozer Home for Incurables will each receive $3000 by the will of the late Lydia Varnall, Media.

Dr. Matthew Woods, Philadelphia, on June 17, entertained the surviving members of the class of 1873 of the University of Pennsylvania.

Dr. Walter Lathrop, Hazleton, has been granted a leave of absence from the State Hospital and will tour Europe, studying hospitals.

The Presbyerian, Jewish, Wills and Pennsylvania Hospitals will each receive $5000 by the will of the late Henry B. Palethrop, Philadelphia.

Society Home. The Berks County Medical Society now has in sight $5815 of the $10,000 necessary to purchase the property which it now rents.

The Woman's Medical Society of Pittsburgh held its third annual banquet at Fort Pitt Hotel, June 12. Dr. Luba Robin Goldsmith was toastmistress.

St. Luke's Hospital, South Bethlehem, has received a donation from Eckley B. Cox, Jr., of $35,000, for the erection of a woman's and a convalescent ward.

The Pennsylvania State Dental Society held its forty-fifth annual meeting in Philadelphia, June 24 and 25. Dr. H. S. Seip of Allentown was elected president.

Fatal Bee Sting. John Pickering, a farmer of Woodbourne, Bucks County, was on July 14 stung on the back of his neck by a large bee and died within fifteen minutes.

The Elk County Medical Society held an open meeting in the Y. M. C. A. Auditorium, Ridgway, July 10. Drs Russell P. Heilman and Spencer M. Free gave addresses.

The Pennsylvania Pharmaceutical Association held its thirty-sixth annual meeting at Forest Park, Pike County, June 24-26. Richard H. Lackey, Philadelphia, was elected president.

Dr. Levi J. Hammond will hold clinics in general surgery and surgical pathology at the Methodist Hospital at 1 o'clock on Mondays and Fridays during July, August, September and October.

The White Haven Sanatorium Training School for Nurses held its commencement exercises, June 28. Addresses were made by Drs. E. J. G. Beardsley and Frank A. Craig, Philadelphia.

The Training School for Nurses of the Nason Hospital, Roaring Spring, held its thirteenth annual commencement exercises, June 26. The address was delivered by Congressman William D. B. Ainey, Montrose.

The Episcopal Hospital will receive $5000 and Philadelphia Home for Incurables and the Kensington Hospital for Women will each receive $1000 by the will of the late Hunter Brooke, Philadelphia.

Baby Saving Show. A baby saving show opened in Conversation Hall, Philadelphia, June 16. The exhibit is held under the auspices of the Child's Hygiene Association and will continue for three months. Nurses and other attendants will be present to give information and there will be daily lectures.

The White Haven Sanatorium Association has the task of raising for the current fiscal year $25,000 needed for free beds for consumptives too sick to leave Philadelphia and too poor to be cared for at home; and to help pay board of patients at White Haven. Contributions can be sent to Edward A. Millar, Treasurer, 404 Walnut St., Philadelphia.

Building for Medical Society. At the meeting of the Luzerne County Medical Society in Wilkes-Barre, June 11, the executive committee was authorized to purchase a site for the erection of a permanent home for the organization. A site 54 by 75 feet at South Franklin Street has been selected and a two-story brick building will be erected on this site containing offices, assembly and reading rooms and a library.

The Philadelphia Clinical Society proposes to erect a twenty-story office building that will be run upon the coöperative plan. Membership will be limited to two hundred. Charter members of the organization are Drs. John B. Deaver, E. E. Montgomery, Samuel D. Risley, G. Oram Ring, C. J. Docker, George W. Warren, George C. Stout, A. Hurstmaier, E. L. Klopp, H. Loux, W. C. Hollopeter and Harvey A. Fenner, druggist.

The Curtin Scholarship. The Philadelphia Alumni Society of the Medical Department of the University of Pennsylvania has decided to endow a scholarship at the university to be known as the Roland G. Curtin Scholarship in recognition of the signal personal work of Dr. Curtin, his eminence as a physician, and his extended service as a clinical teacher and as a loyal son of the medical department of the university. The Alumni Association has contributed for this year $500 toward the endowment fund and a committee has been appointed to make the necessary arrangements to insure the permanency of this scholarship.

Lectures on Health. Dr. A. Barr Snively, Waynesboro, chairman of the Franklin County Medical Society Committee on Health and Public Instruction, reports that nearly all the schools of the county have been visited by the physicians assigned by the committee. The talks on health have been well received. The talks were upon (1) Necessity of Fresh Air; (2) Need of Cleanliness in Person and Surroundings; (3) Risk of Personal Contact with the Ill or Unhealthy Conditions, Disease Germs, Infection, etc.; (4) Avoidance of Needless Exchange of or Mutual Use of Eating Utensils, Atricles of Toilet, etc.; (5) Danger of Infection from Flies; (6) Pollutions of Drinking Water and Milk Supplies. A copy of the printed circular sent out last February can doubtless be secured from Dr. Snively or the secretary of the committee, J. J. Coffman, Scotland.

GENERAL NEWS ITEMS.

Cornell University on June 12 granted the degree of Doctor of Medicine to nineteen graduates, two of whom were women.

Dr. Abraham Jacobi received the honorary degreee of Doctor of Laws from Jefferson Medical College, Philadelphia, June 7.

Sir Jonathan Hutchinson of London died June 23, in the eighty-fifth year of his age. He will be remembered for his many contributions, especially on syphilitic affections of the eyes and skin, and his description of "Hutchinson's teeth," as indicating hereditary syphilis.

The Fourth International Congress on School Hygiene, to be held in Buffalo, N. Y., August 25-30, will be the most complete congress on school hygiene ever held. For further particulars address Dr. Thomas A. Storey, Secretary-General, College of the City of New York, New York City.

Dr. Abraham Glickstein, known as "The Cocaine and Opium King," was on July 3 found guilty in the Federal District Court's criminal branch of conspiracy to use the mails in marketing cocain, and of the manufacture and sale of smoking opium. He was sentenced to serve two years in the Federal prison at Atlanta and to pay a fine of $3000.

Nominees for President Elect of the American Medical Association. Four ballots were required to decide which one of the four prominent men nominated for president elect should receive the honor. The ballots were as follows:—

	1	2	3	4
W. N. Wishart, Indianapolis.	32	39	40	53
Wm. L. Rodman, Philadelphia.	25	33	36	
Victor C. Vaughan, Ann Arbor.	24	27	40	63
H. Bert Ellis, Los Angeles.	17	17		
John B. Deaver, Philadelphia.	15			

The New Laureate. The post of poet laureate of England, left vacant by the death of Alfred Austin, is said to have been offered to Dr. Robert Bridges, who was for some years a practicing physician in London. Dr. Bridges studied medicine at St. Bartholomew's, London, and was at one time a member of the staffs of the Children's and Great Northern Hospitals, but retired in 1882, when only forty years of age, to devote himself to literature.

American Society for Physicians' Study Travel. At a meeting of this society, held in Minneapolis on Monday, June 16, the following officers were elected to serve for the ensuing year: Dr. James M. Anders of Philadelphia, president; Dr. William J. Mayo of Rochester, Minn., first vice-president; Dr. Llewellys F. Barker of Baltimore, second vice-president; Dr. Frank Billings of Chicago, third vice-president; Dr. Albert Bernheim of Philadelphia, general secretary.

Segregation a Failure Again. The municipal clinic, an attempt at thorough and rigid inspection and quarantine of San Francisco prostitutes, has been abolished. The San Francisco *Call* says: "Established as the clinic was in a mistaken idea that it would result in an improvement of general conditions, San Francisco has found, as every other city has done that has tried the plan, that no form of attempted regulation of the social evil is socially beneficial or even tolerable."

Health Council Named. Governor Sulzer has announced the personnel of the Public Health Council which, under the new health law, will establish sanitary regulations. The members are: Dr. Hermann M. Biggs, New York, chairman; Dr. Simon Flexner, director of the Rockefeller Institute for Medical Research; Henry N. Ogden of New York, a sanitary engineer; Homer Folks, secretary of the State Charities Aid Association; Dr. Edwin Clark, Buffalo, and Mrs. Elmer Blair, president of the Women's Club of Albany.

The American Medical Editors' Association at its annual meeting in Minneapolis, June 16th, elected the following officers for 1913-1914: President, Dr. E. A. Van der Veer, *Albany Medical Annals;* first vice-president, Dr. H. Edwin Lewis, *American Medicine*; second vice-president, Dr. Seale Harris, *Southern Medicine;* secretary and treasurer, Dr. Joseph McDonald, Jr., *American Journal of Surgery;* executive committee, Dr. C. F. Taylor, Dr. D. O. English, and Dr. W. C. Abbott; publication committee, Dr. H. Edwin Lewis, Dr. Charles Wood Fassett, Dr. A. S. Burdick, Dr. James P. Warbasse, and Dr. J. MacDonald, Jr.

American Association for Cancer Research, at its annual meeting, May 5, 1913, unanimously adopted the following resolution (the report of the Committee on Statistics and Public Education): It is the sentiment of this association that: (1) The present instruction of medical students in the symptoms and early diagnosis of cancer is seriously deficient. (2) The medical curriculum should include special lectures in the clinical departments dealing specifically with this subject. (3) The universities should provide competent lecturers in this subject to address the local medical societies. (4) The associate members of the association should be urged to take up the question of the proper methods of approaching the public on the subject of cancer. (5) The activities of this association should at present be chiefly confined to the education of the medical profession. (6) This resolution shall be sent to the deans of the medical schools and the secretaries of the state medical societies in the United States and published in the medical press.

Council on Pharmacy and Chemistry. Since June 2 the following articles have been accepted for inclusion with New and Nonofficial Remedies: Luminal tablets, 1½ gr.; luminal tablets, 5 grs.; emetine hydrochloride, Merck, Merck and Company; ampuls emetine, hydrochloride, Mulford, agglutinating serum for the identification of *Bacillus typhosus*, agglutinating serum for the identification of *Bacillus typhosus*, A, agglutinating serum for the identification of *Bacillus typhosus*, B, H. K. Mulford Company; acne vaccine, colon vaccine, gonococcus vaccine, meningococcus vaccine, pneumococcus vaccine, pyocyaneus vaccine, staphylococcus albus vaccine, staphylococcus aureus vaccine, streptococcus vaccine, tuberculin B. E., typhoid bacillus vaccine, Greeley Laboratories. For reasons explained in the report of the Council (*Jour. A. M. A.*, June 21, 1913, p. 1974) the Council voted to reconsider the acceptance of and to omit the following from New and Nonofficial Remedies: Thiocol, syrup thiocol, Roche, Hoffmann-LaRoche Chemical Works. At the request of the manufacturer the Council has voted to reconsider the acceptance of and to omit the following from New and Nonofficial Remedies: Diphtheric antitoxin, U.S.P., Stearns, F. Stearns and Company.

Mortality According to Marital Condition. The N. Y. State Health Department has been collecting statistics regarding the mortality rates as connected with the marital condition during the past three years outside of Buffalo and New York City. The most obvious fact indicated by these statistics is that the death rate for husbands is much lower than for single men at each age group except the highest, where it is about the same. The percentage of difference is the greatest at the ages 30-39 and 40-49, where the death rate of husbands is somewhat less than one half that of bachelors. The table shows that the death rate of widowers and divorced men is considerably higher than that of husbands of the same age, and between 30 and 80 years not far different from the death rate of bachelors of the same age. The table shows further that the death rate of wives is lower than that of single women of the same age, the only exception being between the ages of 20 and 29, which is perhaps in part due to the influence of child bearing at those years and in part to the greater average age of wives in that group. The mortality of widows and divorced women is as a rule higher than that of spinsters. From the standpoint of mortality marriage is of less benefit to women than to men.

REVIEW.

SURGERY AND DISEASES OF THE MOUTH AND JAWS. A Practical Treatise on the Surgery and Diseases of the Mouth and Allied Structures. By Vilray Papin Blair, A. M., M.D., Professor of Oral Surgery in the Washington University Dental School, and Associate in Surgery in the Washington University Medical School. With 384 illustrations. St. Louis: C. V. Mosby Company, 1912. Price $5.00.

The author makes this book clear and concise, and it can readily be seen that it is based upon actual experience. He handles the different subjects in a very thorough and still a very simple manner. In detail of description one is led in a most interesting manner from the diagnosis to the termination of the disease. This book differs from many others on a like subject in being free from sarcasm or personal ruts. The illustrations are numerous and very clear. I feel that the book belongs not only to the dental surgeon but to the beginner and to the general practitioner of dentistry as well.

G. F. C.

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LIST OF QUESTIONS SUBMITTED BY THE BUREAU OF MEDICAL EDUCATION AND LICENSURE AT THE JUNE, 1913, EXAMINATIONS.

PHYSIOLOGY, PATHOLOGY, BACTERIOLOGY.

1. Discuss the evils which may follow the presence of adenoids in the posterior nares.

2. Given a case of pernicious anemia, describe the microscopic blood picture contrasting this picture with that of normal blood, and state the effect of this disease upon the normal functions of the blood.

3. Name three most usual causes of death of bone; describe the processes of death of bone and the sequelae of such condition.

4. Given a case of diphtheria, describe the local lesion, give the laboratory methods of verifying your diagnosis and when as a sequela the heart becomes affected, show how the normal functions of this organ are interfered with.

5. Discuss hyaline, granular and fatty casts (a) as to the local conditions usually present with each variety; (b) as to the impairment

of the normal functions of the kidney in each condition.

6. Given an acute case of peritonitis (a) state how the toxins are absorbed (b) why the Fowler (sitting) position and enteroclysis are rational procedures.

7. In case of chronic alcoholism state the pathological changes which may take place in the liver and show how these changes interfere with the normal functions of the liver. Contrast pathological changes of advanced syphilis of liver.

8. In carcinoma of the cervix name the most common variety; describe the gross and microscopic appearance and describe the methods and avenues of extension.

9. Describe the lesions, outline the laboratory technic of demonstrating the causes of purulent perforative otitis and show the possible sources of infection and dissemination.

10. In a case of acute anterior poliomyelitis (infantile paralysis) describe the local lesion and show how the normal functions of the cord are disturbed.

DIAGNOSIS, SYMPTOMATOLOGY, MEDICAL JURISPRUDENCE AND TOXICOLOGY.

1. Enumerate the symptoms and physical signs in the early stage of acute peritonitis.

2. In syphilis, differentiate: (a) Chancre from epithelioma, (b) secondary skin lesions from the exanthemata, (c) tertiary skin lesions from other chronic skin diseases.

3. Enumerate the symptoms of catarrhal jaundice (duodenocholangitis); name two other diseases of this region that may resemble it, and differentiate them from catarrhal jaundice.

4. State the name and describe the distinctive symptoms of epilepsy resulting from traumatism; how may this form be differentiated from the nontraumatic forms of epilepsy?

5. Enumerate the cardiovascular and the cerebral symptoms of arteriosclerosis and conditions that may follow.

6. Enumerate the symptoms of tetanus; (a) give the etiology, (b) method of invasion, (c) name a toxic condition with which it may be confused and differentiate them.

7. Enumerate the symptoms and describe in detail the physical signs of chronic interstitial pneumonia (fibroid pneumonia) and differentiate it from pulmonary tuberculosis.

8. Enumerate the symptoms of tartar emetic poisoning; (a) name a disease it may resemble and differentiate it, (b) name three antidotes.

9. Enumerate the symptoms of opium poisoning; (a) what are the most favorable conditions for its absorption, (b) differentiate it from apoplexy and uremia.

10. (a) Describe in detail the appearance of an infant born alive at full term; (b) the appearance of an infant dead born at term; (c) the appearance of an infant having died some time before birth; (d) and a method by which it is conclusive that the infant had breathed.

OBSTETRICS, GYNECOLOGY, HYGIENE AND PREVENTIVE MEDICINE.

1. Given a pregnant woman (the first three months) how would you determine whether she might be suffering from abortion or from extrauterine pregnancy; in case of abortion how would you treat the case (omit description of operations).

2. If a woman in labor should suddenly develop the symptoms of collapse or shock, name three principal causes in the uterus which may be responsible for her condition. How would you manage the case (omit description of operations)?

3. Given a woman with a posteriorly displaced nongravid womb, how would you distinguish it from (a) fecal matter in the rectum, (b) a small pelvic tumor? What is the most usual cause of such displacements? How would you prevent it?

4. Name three principal toxemias of pregnancy together with their symptoms. Give the treatment of any one selected.

5. If a woman consults you as to her future labor and places herself under your care, up to the time she falls into labor detail the steps you must take in order to secure her safety. (State in full, tests that should be made.)

6. When is the induction of premature labor justifiable? Detail its status as related to other procedures in cases of contracted pelves.

7. Enumerate four abdominal enlargements which may be mistaken for advanced pregnancy (seven months or more) and differentiate them from such possible pregnancy.

8. Name the diseases and methods of transmission caused by (a) house fly, (b) rat, (c) mosquito, (d) bed bug, (e) tsetse fly, (f) wood tick.

9. If an analysis of water revealed the presence of nitrites or nitrates or both why would this indicate its unfitness for drinking purposes? How could it be rendered safe?

10. State articles of food that are advisable in the following diseases: (a) diabetes, (b) tuberculosis, (c) anemia, with reasons for the recommendations.

SURGERY, ANATOMY.

1. Describe an approved method of performing vaccination; enumerate such complications as may arise and state the reasons for those possible complications.

2. In fracture of the lower end of the radius ("Colles' fracture") state (a) the usual displacement, (b) the muscles causing same, (c) the method of reduction.

3. State, first, what you consider the favorable conditions in a patient to whom is being administered (a) sulphuric ether, (b) chloroform; second, the unfavorable or alarming conditions that might be present with either drug.

4. Name three forms of bowel obstruction; outline briefly the symptoms that are common to each; outline a surgical operation that may be required in any one form selected.

5. Describe the normal relationship of the bony landmarks at the elbow joint; state the alterations that may occur in these landmarks in (a) anterior luxation, (b) posterior luxation, (c) fracture of the olecranon process.

6. In fracture of the neck of the femur, state the usual deformity and the anatomical explanation of the same. Describe an external test line used in diagnosis of some hip-joint

conditions. Briefly outline two methods of treatment of fracture of the neck of the femur.

7. Name three forms of abscess that may occur in the vicinity of the rectal orifice; state the directions that pus may burrow if left unchecked; briefly outline the surgical treatment of two forms of abscess.

8. State two paths along which infections may reach the kidneys. State the local and constitutional symptoms of pyonephrosis.

9. If called into the country to do an appendectomy; make complete lists (a) those things that you would desire them to furnish at the house of the patient, (b) those things that you would bring with you.

10. Describe methods of treatment of patient who has been subjected to an electrical current of high voltage.

PRACTICE, THERAPEUTICS, MATERIA MEDICA.

1. Outline the management of a case of diphtheria in a child six years old; state the important conditions to be met, with definite methods of meeting those conditions, and give reasons for the use of each remedy selected.

2. Outline the general management of a case of pneumonia in an adult; state three remedies that may be used in this condition, with definite indications for the employment of each.

3. In a case of nephritis, indicate the various conditions that must be considered; state the appropriate remedies for each condition and give definite reasons for the use of each remedy.

4. In acute endocarditis, state the ordinary causes and possible complications, outline the management and give reasons for the employment of the more usual remedies.

5. In acute gastrointestinal catarrh outline the several indications for treatment, with definite instructions as to remedies and reasons for their use.

(Important Note—Before beginning to answer the above questions, candidates are required to plainly write at top of the first page of their paper, the words, (a) Eclectic, (b) Homeopathic, (c) Old School, according to which school of medicine they represent. In case this is not done, the paper is in danger of being marked by a representative of the Bureau representing one of the other schools, and therefore be incorrectly marked. Any paper not marked as above will be rejected.)

CHEMISTRY.

1. Describe the chemical composition of blood, giving approximately the percentage amount of the various component parts.

2. What is indican? Where is it formed? by what process is it formed? Give a test for its presence in urine.

3. Name the principal waste products of the human body. By what excretory organ is each eliminated?

4. How would you determine chemically whether or not any given stain was due to human blood?

5. Where and in what form do the following chemical elements occur in the human body: (1) iron, (2) iodin, (3) phosphorus, (4) sulphur, (5) fluorine?

SOCIETIES.

PHILADELPHIA LARYNGOLOGICAL SOCIETY.

Stated meeting of April 15, College of Physicians, Dr. Ross Hall Skillern in the Chair.

The Nasopharynx as a Cause of Disease in Other Parts of the Body was, by invitation, presented by Dr. Judson Daland. The striking clinical picture produced by adenoids in children, *i. e.*, the peculiar dull facial expression, the open mouth, the short upper lip, the enlarged and full red lower lip, the occasional dribbling of saliva, associated with diminished intelligence, the existence of malnutrition as evidenced by diminished growth, weakness, anemia and loss of weight, abundantly demonstrate the influence of nasopharyngeal disease upon the bodily health. Conversely, when the adenoids are removed, the comparatively rapid disappearance of all these phenomena and the truly remarkable increase in growth corroborate this statement. Nasal stenosis, from the internist's standpoint, may be viewed as complete or partial or intermittent, and causes varying degrees of mouth breathing. Nasal breathing regulates the temperature and humidity of the inspired air and also removes foreign particles, such as dust for example; therefore the mouth breather loses this advantage. In consequence of mouth breathing, catarrhal inflammation of the mucous membranes of the mouth, pharynx, larynx and tracheobronchial tubes is frequent. When the inspired air requires moisture, it is secured from the mucous membranes of the respiratory tract, mouth and pharynx. In like manner dust and irritating particles frequently enter the bronchial tubes giving an added cause of irritation. The inspired air, which is prevented from traversing the nasal chambers in nasal stenosis and therefore passes directly through the mouth into the bronchial tubes, may be viewed as unprepared for entrance into the lungs and the delicate mucosa is irritated; and I incline to the opinion that spasm of many of the finer bronchioles is induced, thus shutting off air from many alveoli which remain more or less constantly in a collapsed or semi-collapsed state. Physical examination of the lungs clearly demonstrate that breathing through the mouth produces a vesicular murmur harsher than normal, and that inspiration and expiration are more nearly of the same length; whereas in normal nasal breathing the entire act of inspiration occurs more slowly and more completely, the inspiratory murmur is much longer than the expiratory murmur and the quality of the vesicular murmur becomes soft and breezy and characteristic of normal pulmonary breathing. Auscultation, therefore, corroborates the theory that in mouth breathing the air is prevented from penetrating freely and easily into all parts of the lung, and does not enter many alveoli, and therefore the resultant inspiratory murmur becomes harsher and possesses less of the vesicular element than normal. If a comparison is made of the vesicular murmur produced by normal nasal breathing with that of mouth breathing, the difference described is readily recognized.

Nasal stenosis, by causing insufficient pulmonary expansion, induces corresponding alterations in the chest; the ribs become more oblique, the vertical diameter increases, the transverse diameter decreases, the inferior costal angle becomes more acute, thus predisposing to disease, more especially tuberculosis, and as has already been stated, the air inspired by a mouth breather induces tracheobronchitis, laryngitis and also spasmodic croup and asthma. As many alveoli are habitually collapsed or only partially filled with air with each inspiration, only partial oxygenation and decarbonization is possible. Naturally, this interferes with metabolism and consequently with growth. Anemia is commonly observed, usually of a moderate grade, and, as a rule, the loss of hemoglobin is greater than the loss of erythrocytes, constituting chloro-anemia. As the diminution in hemoglobin is due, in part, to a deficient supply of oxygen this form of anemia is rarely influenced by ordinary remedies; but when nasal obstruction is removed and the patient again forms the habit of breathing normally, the blood recovers its physiologic balance. Any interference with oxygenation and decarbonization of the blood, acts deleteriously upon the individual cells of the body and produces an alteration in metabolism, and in all probability chemical bodies form, circulate in the blood, and may be more or less toxic.

Nasal stenosis in the young produces morphological changes in the mouth; the dental arches become narrow and, in consequence, the teeth show want of alignment, are crowded and displaced and occlusion becomes imperfect, thus markedly interfering with mastication, which in turn leads to disorders of digestion. Under these circumstances the palatine arch is high and encroaches upon the nasal spaces and the voice is more or less altered. In permanent and complete nasal obstruction the sense of partial suffocation, shortness of breath and asthmatic attacks may occur. When pressure is exerted upon the septum, asthma may be induced.

Intermittent, complete or partial nasal obstruction is frequently due to relaxed and enlarged turbinal bodies, due to venous stasis, which in turn is commonly due to excessive fatigue or nervous exhaustion, and may occur from shock. It may be diurnal but is more apt to be nocturnal, and usually causes complete obstruction of the pendant nostril. Upon turning the head this condition is frequently reversed. Not infrequently nocturnal mouth breathing is thus induced, usually associated with snoring, frequently causing insufficient oxygenation so that the individual awakens in the morning after sleep feeling unrefreshed.

Partial nasal obstruction is frequently overlooked and may sometimes be caused by a very small adenoid obstructing one of the posterior nasal orifices. Spasmodic croup in children is often caused by dryness of the laryngeal and pharyngeal mucous membrane, which is often relieved when water is taken at short intervals.

The usual infective organisms of the nasopharyngeal tract are: Influenza, streptococci, staphylococci, pneumococci, diphtheritic and syphilitic, and may be located in the tonsils, nasal passages or the sinuses including the mastoid. These infections may be acute or chronic, and may be limited to one or more of the tonsils or one or more of the sinuses, and may remain local or extend to adjacent structures or become constitutional. In certain cases that may be called carriers, some of these microörganisms may be constantly present in the nose, the sinuses or the pharynx and the individual be apparently healthy. Such persons may innocently spread diseases, such as influenza or diphtheria. It is now well established that when leprosy invades the nose it may be transmitted by nasal discharges. An apparently normal nasopharynx may contain active pathogenic organisms. Frequently recurring attacks of influenza may be really acute exaccerbations of chronic influenzal inflammation of the nasal passages or sinuses.

Headaches, mild or severe, recurrent or constant, may be due to frontal sinusitis; and when the exit is obstructed and the secretions retained, the pain may become agonizing. In sphenoidal sinusitis the orbital contents may be involved by extention of inflammation and ocular disturbances may be induced reflexly. Meningitis, by extension, may be caused by suppurative inflammation of the sphenoidal, ethmoidal or mastoid cells and in the latter a septic thrombus may also occur. Suppurative inflammation of the superior maxillary sinus may be the underlying cause of facial neuralgia.

Mild or severe septicemia or pyemia, which at times may be recurrent, may be evoked by a streptococcus sinusitis, tonsillitis or pharyngitis. Ostitis, periostitis, arthritis, periarthritis and arthritis deformans have been traced to a septicemia, pharyngeal or nasal in origin; and a similar origin may be ascribed to certain cases of anemia and pernicious anemia. It is now generally believed that general pneumococcus infection, accompanied by lobar pneumonia, may arise from a local pneumococcic infection of the mouth, pharynx or nose.

Many cases of septic polyarthritis are incorrectly diagnosed as acute or chronic rheumatism. Although the origin of the sepsis may be in any part of the body, it is most commonly situated at the root of the teeth, the tonsils or in the nose or sinuses. Unless the septic nature of the arthritis is recognized and the focus discovered, recurrences are common. The following case illustrates the common error of mistaking acute septic polyarthritis for rheumatism:—

Female, aged 18 years, stated that nine years ago she had severe tonsillitis, followed by so-called acute polyarticular rheumatism involving the joints of the left upper and lower extremities and the right wrist, with fever and delirium. During convalescence which occurred three months later, observed marked weakness, dyspnea on exertion, tachycardia and cardiac palpitation; and examination of the heart showed marked mitral stenosis. When first seen six years later she complained of recurring attacks of sore throat and rheumatism of the throat, neck and shoulders and so-called rheumatic pains in various parts of the body. The tonsils were much enlarged. These symptoms persisted. The tonsils, which were removed one year later by Dr. Walter J. Freeman, were small, and showed, in each, decomposing cheesy material and an abscess cyst of the left tonsil, since which time there has been no return of the so-called rheumatism or cardiac symptoms. Cardiac compensation is so complete that a game of tennis produces no symptoms of cardiac insufficiency. It is evident that the septic focus in the tonsils was the cause of acute polyarthritis and mitral valvulitis.

A boy, aged 16 years, suddenly became blind in the right eye. Dr. L. Webster Fox diagnosed embolism of the retinal artery. The patient gave a history of so-called polyarticular rheumatism. Examination of the heart revealed the usual signs of mitral valvulitis. Sepsis was suspected, and although no focus could be detected anywhere, and the patient denied nasal symptoms, examination by Dr. Ross H. Skillern revealed suppurative ethmoidal sinusitis which was drained. The patient has not returned for reëxamination; nevertheless, it is probable that he has escaped recurrence of acute septic arthritis and endocarditis.

That mild septicemia may produce moderate anemia is well recognized; but that pernicious anemia may be so induced, is not generally known. In a male aged 62 years, presenting the complete clinical picture of pernicious anemia, examination of the blood showed that the hemoglobin was 25 per cent., the red blood cells 1,180,000 or 22 per cent., and there were present microcytes, many macrocytes, poikilocytes and occasional megaloblasts, leukocytes 2200 per c.mm. Dr. George H. Hughes and Dr. J. W. Kennedy drained a suppurative tendosinovitis and recovery followed.

Dr. C. F. Adams, in discussing: The maxillary sinus, the frontal sinus, ethmoid cells and sphenoid sinus, may implicate orbit and optic nerve in their disease. This is most apt to occur in diseases emanating from ethmoid cells, for the latter are separated from the orbit only by the thin lamina papyracea, which, moreover, sometimes has gaps in it.

The most posterior ethmoid cell not infrequently extends into the small wing of sphenoid and then comes into closer relation with optic nerve, because it now borders on optic canal, and it may extend so far beyond median line that it actually adjoins optic canal on other side. Otherwise, the wall of optic canal is formed in part by sphenoid sinus.

In optic canal the dural sheath of optic nerve is transformed into periosteum of bony canal. Optic nerve, therefore, in this situation, is enveloped only by delicate pial sheath, which in most places is attached to periosteum, and on upper side is actually adherent to it. The first branch of trigeminus runs through the cavernous sinus, and in this part of its course lies close to lateral surface of body of sphenoid. This is the reason why it may react under form of neuralgias to an inflammation of mucous membranes of sphenoid sinus.

I recall two such cases. C. R. V., aged 36, driver of a delivery wagon, in whom two years ago a facial neuralgia began on right side, worse over eye; growing worse for past two weeks. Vision normal. Septum deviated to right to such an extent that cavity could not be explored. There was slight postnasal discharge. With iodin applications to nares and insufflation of cocain and bismuth, his neuralgia was immediately relieved and eventually cured.

Axenfeld states that in cases of orbital cellulitis, in which examination is negative, original sinusitis, which occasioned orbital condition, is progressing on account of absence of drainage. Reports of such cases are numerous.

These cases show that there is a close relation between lymph and blood supplies of nasopharynx and eyes, and exciting cause is adenoids. I claim that adenoids, by interfering with nasal circulation and causing catarrh at the same time, also interfere with circulation of the eyes, producing a hyperemia and a disturbance of choroidal pigment, which may be readily discerned with ophthalmoscope, and when adenoids are removed in children before too much damage has been effected, the eye will return to normal and amblyopia will in a few weeks disappear.

Dr. Thomas H. Fenton: The work of the rhinologist contributes enormously to the general welfare. We are broadened by Dr. Daland's description of conditions following disturbances in this region, for instance, arthritis, which might be regarded as due to other causes. A young woman, with facial expression of pain for past three weeks, was victim of extraordinary bulbar, ocular and supraorbital pain. Atropin had been applied; failing of relief she sought other advisers, who found no obstructive or inflammatory changes; optically, perfect. Case was referred to Dr. Randall, who found blocking of one of the outlets; the passing of a probe, and releasing secretion gave relief.

Dr. W. Egbert Robertson: These subjects are of very great importance, as they have a bearing, not only upon work of specialist, but even more particularly upon work of general physician who is, usually, the first physician to be consulted by the patient. The family doctor at times fails to recognize sinus and nasopharyngeal disease as the primary focus of a general infection, or of a local infection or reflex, and even the specialist may not discover it. I recall two interesting cases; one patient had recurring attacks of iritis with hypopyon, first in one eye then other, and was referred by the rhinologist to an ophthalmologist and later to me. Transillumination failed to reveal the disease. She had very large middle turbinates which interfered with drainage, and, I suspected, not a purulent condition, but rather the presence of old granulation tissue in the sinuses, particularly the ethmoid. An *x*-ray made by Dr. Pfahler confirmed this, and I have since been able to prove the correctness of view by having ethmoid cells cleaned out after snaring off middle turbinate.

The other patient presented unilateral evidence of disease beginning with herpes at root of left side of nose, which traveled down to tip then up over vertex of lamboid. Later she developed herpes of cornea, iritis, hypopyon and loss of sight. She was seen by (it was stated) eleven consultants, both neurologists and physicians, without staying progress of disease, and unfortunately opiates had been rather freely administered for relief of pain, until she finally demanded them. This, too, was a sinus case, ethmoid and probably sphenoid, though of sphenoid involvement I can not speak with absolute certainty.

As to the relationship between tonsillar disease and general bodily disturbances, notably arthritis and endocarditis, this is too well recognized to merit special observation. Relationship between pyorrhea and furunculosis or a low grade sepsis, seem to be less well known. So, too, with disease of the lingual tonsil which may be the seat of disease, even tuberculosis, as in a case reported by Biedert.

Dr. E. B. Gleason: When there is too free respiration, results may be equally as disastrous. In tuberculosis, the nose has been found to be a mere shell. As to general infections following tonsillar conditions, I am still a "doubting Thomas." In only one case that I am aware of, could rheumatism be traceable to peritonsillitis. I have been asking in the hospital about cases of rheumatism following tonsillitis, and they reported only one case in many years, and then only after the tonsils had become normal. A mass of pus from side of capsule is of rare occurrence. A mass of pus in alveolar process is very common. It is much more plausible that systemic conditions are result of alveolar abscesses. There should be a careful examination of teeth. Tubercular tonsil is not a common thing. If a child is mentally defective, removal of tonsils and adenoids does not improve condition. Whatever gain follows operation is result of improved hearing. Eye headaches are worse at night, and nasal headaches almost invariably worse in the morning, and result of pressure within nose, and relieved by two per cent. solution of cocain. Individuals with latent empyema of maxillary antrum often claim perfect health, and after cured they say they never before knew what good health is. F. M. STROUSE, Reporter.

PHILADELPHIA POLYCLINIC OPHTHALMIC SOCIETY.

Meeting of March 13, Dr. Wendell Reber in the Chair.

Retrobulbar Neuritis of Nasal Origin. Dr. H. Winfield Boehringer reported case in woman, 45 years of age, with family history studded with tuberculosis. Eight years ago she was in bed seven weeks with neurasthenia; two years ago had two posteclamptic convulsions and for several days vision was misty in both eyes. She was up the sixth day. Four weeks ago patient had mild attack of grip and was in bed for two days. This was followed in about a week by a bad coryza. A few days later she reported with sudden blindness in right eye. Vision equaled 20/20 in left eye and 20/200 in right. Peripheral vision was better than central. She complained of pain over right side of head, especially marked in right eyeball. Pain in eye was sharp and severe when percussing over frontal sinus and more so when eye was palpated at outer sclerocorneal junction; but palpation at any other point elicited no pain. Sudden movement of eye, especially upward, caused great pain. Pupils were small and reacted to light and accommodation. Media were clear, fundus details negative except as to slight tortuosity of vessels, veins somewhat dark and full and a slight paleness of temporal side of both disks. Large central scotoma was found but no concentric contraction of form or color field.

Nasal mucosa was found engorged with no hypertrophy of turbinates. Posterior examination and transillumination were negative as to sinuses. Patient refused *x*-ray. Vision: first day 20/200, second day 10/200, third day fingers at 1 ft.; fourth day fingers at 4 ft.; fifth day fingers at 6 ft.; sixth day fingers at 12 ft., which I found equaled 20/200. Next day, after working hard, vision dropped to fingers at 6 ft. Three days later vision was 20/75. Vision is still intermittent and foggy and she describes letters as being flashed on and off as by electricity and somewhat luminous. Vision was better on black card than on white one.

Diagnosis of retrobulbar neuritis was made. Treatment consisted of spraying nose with a 4 per cent. solution of cocain and 1-5000 solution of adrenalin four times a day. Ten grains of sodium salicylate were given every three hours. Atropin, 1/200 grain every hour for two days, was given until dryness in throat and mouth occurred.

Report of a Case of Papillitis of Doubtful Origin was presented by Dr. Luther C. Peter. Mr. T., Italian, aged 45, enjoying good health until January last, suddenly developed severe pain in right eye in three days. Pain disappeared; no other symptoms until middle of February when pain developed in left eye. There were no other symptoms, pain having disappeared at time of consultation. Vision in right eye was limited to faint light perception, and in left eye, 20/30 partly; pupil of O.D. moderately dilated, responding but feebly to light and accommodation; consenual contraction present in right eye with left eye exposed, but not *vice versa;* some slight proptosis of O.D., about 2 mm.

Ophthalmoscopic examination showed in right eye a round pupil, clear media, disk very hazy in outline, grayish white in color, cribrifrom membrane is obscured by exudate, veins overfilled and tortuous and lost in retinal haze and edema. Arteries were much contracted and showed considerable perivasculitis, especially on disk. Marked retinal striation and edema, which extended some distance beyond disk edge, but no hemorrhages were visible and above disk were several small white areas, probably remains of old hemorrhages. There was not much elevation of disk.

In left eye appearance was somewhat in contrast, although similar in some respects. There was more edema, veins were more engorged, arteries not changed so much in caliber though somewhat narrow in size, disk not so pale—evidently earlier stage of same process described in right eye.

Ophthalmic diagnosis: Papillitis in receding or atrophic stage, in right eye, and an earlier, more active stage, in left. Neurologic examination was negative; nasal examination negative. There is, however, an enlargement of sella turcica. Wassermann test of blood was also negative, but no test was made from cerebrospinal fluid.

Treatment consisted of daily hot packs, preceded by pilocarpin hypodermatically, ung. hydrarg. 1 dr. bd., by skin, and, on Dr. Reber's suggestion, nasal passages packed daily with 25 per cent. argyrol solution for twenty minutes. Since institution of active treatment, vision has improved from 20/70 to 20/20 partly. Improvement may be due, however, to recession of edema in left eye, which may or may not be influenced by treatment.

Diagnosis is difficult, as report of both rhinologist and röntgenologist are negative so far as sinuses are concerned. Systemic disease of central nervous system can be ruled out because of total absence of corroborative symptoms. Tobacco, alcohol and lead can also be eliminated as etiologic factors. Tumor of brain, other than syphilitic, has little corroborative evidence.

By exclusion, disease of pituitary body and syphilis remains to be considered. Against syphilis is negative Wassermann. However, it is not unusual to find blood test negative and cerebrospinal test positive in late nervous syphilis. In favor of diagnosis are initial lesion, tolerance of mercury, improvement under use of mercury, perivasculitis noticeable in edema, sudden development of papillitis.

Decompression operation was discussed and Dr. Peter felt that there could not much good come from such an operation at this time.

The Muscular Anomalies of the Eye Due to Sinus Disease. Dr. W. C. Posey: By reason of juxtaposition of some eye muscles with walls of orbit, and very close association of nerves which supply them with sphenoid cavity, as they pass along outer wall of this sinus, paresis, and even paralysis of one or more of eye muscles, may occur as a consequence of sinusitis. While complete paralysis demands an inflammatory process of considerable intensity, and is usually occasioned by a cellulitis of apex of orbit secondary to either an active sphenoiditis or ethmoiditis, or more rarely to antral disease, paretic conditions of muscles may complicate comparatively mild cases of sinusitis, and may occur when rhinological examination reveals only a congestion of mucous membrane lining the cavity.

Chronic empyematous conditions of sinuses rarely occasion marked muscular insufficiencies unless signs of active inflammation arise, for distention of walls of sinus under such conditions is gradual and displacement of globe which follows is so slow that muscles have an opportunity to adjust themselves to changed conditions of visual axes under which they are forced to operate. In acute cases, paresis is occasioned by direct inflammatory infiltration of long, broad, flat belly of muscles themselves, as they lie in association with walls of sinus, or by an involvement of nerves supplying them as they enter orbit. As in many of these cases function of muscle is but slightly interfered with, diplopia is but rarely complained of, and can be detected only by careful search in periphery field by aid of a colored glass. Under such circumstances, diagnosis may often be facilitated by requesting patient to indicate in which direction movement of eyes is especially painful, as considerable distress is often excited when eyes are rotated into position in which fullest demand is made on affected muscle.

As a consequence of this paretic condition of muscles, vision is often blurred, and while many of palsies are not sufficiently marked to induce diplopia, when eyes make their ordinary excursions, the imbalance created is sufficient to confuse vision, to cause vertigo, to excite reflex gastric symptoms and to render near use of eyes difficult. By reason of their anatomic relationships, paralysis of levator, of superior rectus and superior oblique muscles serves to indicate a probable involvement of frontal cells; paralysis of internal rectus, an involvement of ethmoidal; and paralysis of inferior rectus or inferior oblique muscles, an inflammation of antral cells. As sphenoiditis may implicate any or all of nerves supplying these muscles, value of differentiating precise muscle affected, as a localizing symptom indicating involvement of any particular sinus, is not great. Diplopia in periphery of field does not always indicate that a muscle has been paralyzed, for it may be induced by a slight displacement of globe, either by exudation or by distended wall of a sinus.

Ptosis from paralysis must not be mistaken for dropping of lid from edema. This differentiation is not always easy, for, as in all other signs and symptoms of sinusitis, both edema and palsy may be transient and may disappear, only to reappear after several hours, days, or even longer intervals.

I am of the opinion that if many cases of palsy of extraocular muscles, attributed to rheumatism, were analyzed that an affection of a sinus would be found to be underlying cause in many instances. Such palsies may appear after "catching cold," and are associated with more or less pain on moving eye, and possess other characteristics which suggest presence of an acute sinusitis.

Thrombosis of Central Retinal Vein Secondary to Nasal Disturbance. Dr. Wendell Reber reported case of a colored man, about 45 years of age, who came into service at Samaritan Hospital about four years ago. He had been in perfect health for twenty-five to thirty years at least. Within two or three days he developed blindness in right eye, vision being only 20/200. He had been examined by his medical man (who was a relative of his employer) but nothing wrong could be found.

In going over him we found a typical picture of obstructive disease of central vein; condition corresponding to that which used to be called apoplexy of retina. He had some pain in moving eye but no pain on pressure, no ciliary tenderness, and no inhibition of eye in any of meridians. X-ray and rhinologic examinations were negative. General medical man reported blood pressure 150 cystolic and 10 or 15 degrees less diastolic; practically normal pressure for his time of life. Urine and blood were normal; man was in very good condition. Rhinologic report was doubtful but I am no longer disturbed by a negative rhinologic report in diagnosis of nasal disease. Nasal disease will sweep in and do its damage and disappear by time ocular damage becomes apparent. In this man there was a negative Wassermann and von Pirquet. After rhinologic treatment of nineteen to twenty days he regained vision of almost complete retinal picture. There is a slight change in his right optic nerve head but he still holds on to his 20/30 vision. This was accomplished inside of four weeks without other treatment. Here is a case in which we have shown that trouble was due to latent sinus disease.

I am willing to put myself on record as believing that a goodly number of cases of thrombosis of central veins have been due to latent obscure undiagnosed sinus disease. If there is one thing that to my mind is more important than anything else in the present-day study of obstructive disease in retinal vessels it is latent obscure nasal disease; but this latent condition need not be purulent. From this fetish we hope the medical world will soon be delivered. It is apt to occur in eye on same side as sinus disease.

Within eight weeks of time above case was seen another colored man presented himself in our service with thrombosis of right central vein. Coagulation time of his blood was abnormally short. He ultimately regained vision of 5/9 under long-continued small doses of sodium iodid (3 to 5 grs. *t. i. d.*).

Dr. Posey: By reason of intimate association of optic nerve with sphenoid bone, and, as Onodi has shown, in many cases with posterior cells of ethmoid, this nerve is more or less implicated in majority of active inflammatory conditions of these cavities. Were it not for double layer of periosteum which covers bone forming barrier between nerve and sinus, and for protection afforded by its sheath, it would be difficult to comprehend how this nerve could escape implication in any affection of sinus, for separating layer of bone is frequently as thin as paper and contains many deficiencies.

Involvement of optic nerve, as a consequence of ethmoidal or sphenoidal sinusitis, may vary in degree from a simple edema to an active retrobulbar inflammation. While this latter inflammation is rare, even in cases of marked sinusitis, edematous infiltration is common, although as change wrought in nerve is but slight, symptoms which it excites are not striking; they must be searched for with some care. As a rule, patient complains of some dimness of vision in one eye; at times, of vertigo, headache and other head symptoms. When ophthalmoscope is employed, unaffected eye is usually found to be normal, while in fellow eye a slight veiling of edges of nerve is seen, with a dilatation of retinal veins and a choking of lymphatics around central vessels. If sinusitis is unchecked and retention of contents of cavity occurs, nerve becomes more involved and familiar signs of a retrobulbar inflammation of nerve appear.

In cases of even slight involvement of optic nerve, patient is usually conscious of a dimness in affected eye, although if vision be tested in ordinary manner it will be found to be equally good in each eye; in other words,vision for form is normal. If light on chart be reduced, however, or if Bjerrum's test card be employed, difference in vision between two eyes will be at once manifest, and it will be ascertained that dimness in affected eye was occasioned by a diminution in light sense, as a consequence of edematous infiltration of highly organized bundle of fibers which supply macular region.

Extent of involvement of nerve may be further studied by perimeter, by means of which it will often be possible to differentiate relative central and paracentral scotoma, and at times a concentric contraction of field. If congestion of nerve progresses to inflammation and conducting power of its fibers is further interfered with, more positive defects in visual field will appear, and it will be possible to outline absolute scotoma, both central and paracentral, and peripheral contractions in field, in accordance with location and degree of involvement of nerve.

Enlargement of physiologic blind spot has been much dwelt upon by some authorities, as of diagnostic value in such cases; but facts as to limits of normal blind spot are not yet sufficiently defined to make sure any diagnostic conclusions we would like to draw.

Dr. Reber: I do not think we have had a case in last four or five years that has interested me more than this. I do not know whether patient was treated for syphilis or not but he presents a negative Wassermann. In certain cases of this type a specimen should be taken from cerebrospinal fluid. We have also a negative neurologic and rhinologic report in this case. My attitude toward rhinologic report is that I usually insist that case be treated on rhinologic grounds, if I think there is any chance of trouble being due to sinuses; and the patient generally gets better. I have come to belief that only prolonged rhinologic study is worth while at all. Fuch's present position is that rhinologist should be obliged to operate if ocular symptoms indicate it.

I do not know yet just how much importance the *x*-ray plays in diagnosis of these cases for there certainly are variations in size in normal pituitary body. This man recovered more quickly than any patient I ever saw with a syphilitic optic neuritis. Visual fields are against disease of pituitary body in this case. There is no denying that we may be dealing with a bizarre syphilitic process.

In Dr. Boehringer's patient diagnosis rested between hysteria and retrobulbar neuritis. What she tells us about her blindness is absolutely correct. She had some manner of sinus disease. I do not think there is any doubt of that, with the edema of lid, the history of case, grip, peculiar type of pain, tenderness over frontal sinus and reduction in vision. If she had had these things without pain it might have been hysteria. I agree with Dr. Posey when he says he wonders we do not oftener see these ocular conditions in connection with nasal disease. I also agree unreservedly with what he has said in regard to enlargement of blind spot. I have had cases of optic nerve disease in my office that did not show any enlargement of blind spot. On other hand I have secured most valuable information by this method in certain doubtful cases.

The lesson that stands out from these three cases is necessity of bearing always in mind possibility of nasal origin in obscure ocular disease, and imperative necessity of a skiagraph in all obscure forms of optic nerve disease.

Dr. Peter: I have been making a number of experiments and have not been able to satisfy myself that there is any enlargement of blind spot in these cases unless there is a very marked change in optic nerve.

Dr. Boehringer's case is typical of sinus disease. Central scotoma coming and going, due to an increased pressure within sinuses themselves and not an inflammation extending along vascular sinuses, is suggestive. There is distinct relation between turbinal disease and eye conditions.

D. Forest Harbridge, Secretary.

CONGRESS OF THE GERMAN SURGICAL SOCIETY.

Reported by Dr. R. J. Behan of Pittsburg, Resident in Berlin.

The Congress of the German Surgical Society was held this year from March 26 to March 30 in the Beethoven Hall which for three days, instead of being the scene of musical concerts, was given over to the discussions of the most vital problems of surgery by Europe's leading men. I ought to say rather of the leading men of Germany, Holland, Switzerland, Northern Italy, Russia and Austro-Hungary. Most of the speakers were either Germans or Swiss. Even at that the German of some, owing to differences in dialect, was so unclear that it was difficult even for Germans themselves to understand.

Another thing noticed at this Congress was the precision and expedition with which every thing was done. The meetings started on schedule time, not a minute late, and quit only a very few minutes after the announced time, and this, even after allowing a liberal time to each member for reading and discussions; but the discussion must be to the point or else the president, Prof. v. Angerer, quickly called the speaker to order.

Generalities and ordinary reports that would be all right in a journal article but which are out of place in a congress would soon give rise to protest from the members by the shuffling of feet, etc. When such occurred even against the remonstrance of the president, more than once the speaker concluded that his topic was uninteresting and hurried to his conclusion. The lack of ventilation was most annoying and had towards the latter part of a meeting the effect of making one drowsy, so that at times the essential part of the discussion was lost.

Another point that impressed one, was the mixture of the business and the scientific transactions of the society. Officers were elected, reports of committees read and approved, without any loss of time and no especial disturbance of the society. At this congress Prof. Roentgen was elected an honorary member, only one member being elected at each congress. The report of the treasurer was most interesting and to one who was not familiar with the finances of the society it came as a great surprise. His report was as follows:—

Receipts, etc, for 1912	Marks 62,203
Expenditures	42,912
Balance	Marks 19,284
General report:—	
Money in treasury	Marks 19,284
Bonds, etc., par value M. 365.300	374.800
Langenbeck House valuation	550,000
Total	Marks 944,084
Outstanding debts	264,000
Balance	Marks 680,084
Subtracting the valuation of Langenbeck House	550,000
Actual cash or negotiable paper on hand	Marks 130,084

This is a most excellent standing and compares favorably with the standing of our own American Medical Association. Thus it shows that at the present time the society which was founded in 1873, is a fairly wealthy corporate body. Its home, Langenbeck House, is valued at M. 550,000 ($137,500) but at the present time is too small to accommodate its members.

To attend this congress it was necessary to become a member; membership was obtained through an application signed by three other members. In former congresses this was not difficult to obtain but at the present congress was not so easy as one was required to furnish proof that he is engaged exclusively in surgery. This was evidently aimed at the foreigners who yearly crowd the congress. The application blank must be signed by a fellow countryman who is a member, and by two other members of the society. The application must be in at least ten days before the congress begins. It was also agreed at this congress not to hold the congress at Langenbeck House because of its size, but to continue to hold it in the Beethoven Hall of the Philharmonic in Berlin.

After the president's opening address and an outline of the plan of the proceedings on the following days, the society quickly got down to business.

The papers must not be longer than fifteen minutes and the individual discussion must not last longer than five minutes. The president however may at his discretion extend the time, at the most ten minutes. Those who wish to enter into a discussion must write their name and address on a blank provided for that purpose and give it to the president.

The meeting was opened at 10 P. M. sharp by v. Angerer who after welcoming the members and making public the decisions, etc., of the executive, then eulogized the members of the society who had died during the past year. After this the meeting opened with an address by Garre of Bonn on the Treatment of Bone and Joint Tuberculosis. Garre after speaking in a general manner of the bone and joint tuberculosis gave a resume of his experience in treating tuberculosis of the separate joints. In tuberculosis of shoulder joint the injection of iodoform does not give very good results, the resection also is not very good, but the functional result is fairly good. In the elbow, resection is better in pus cases; after it the function is fair; resection gives the best results in children; a new olecranon is made out of the ulna. Resection must not be performed in the wrist; the function is not good; curetment and injection of iodoform give very good results. In tuberculosis of hip Lorenz' bandage is the best. There is no forcible correction. Iodoform injection is not so good. Anklosis results. Garre has not found Hessen's apparatus to be very useful. He resects only in the severest cases. In all cases he removes the sequestra when present. He had 30 percent. mortality from hip resection.

In the knee, conservative treatment is the best and gives 55 per cent. of good results, 45 per cent. of patients had pain, etc. He has had 268 cases of resection. Curetment is also done where the condition is localized. In children resection is always performed. 5 to 10 cm. of shortening results when the epiphysis is disturbed. He has had 38.6 per cent. good results out of 174 cases. Conservative treatment should be used in the early cases, old pus cases should have radical treatment.

In tuberculosis of the ankle joint Garre has treated 60 per cent. conservatively and 40 per cent. operatively. Resection is the only treatment in old cases with fistula, etc. In 78 cases he has done resection with Koning's method. The results are good. In all cases of local tuberculosis of the bone, the areas must be curetted. All cases resulted favorably.

Abscess cavities are opened and then injected with 10 per cent. iodoform; the fistula is excised. He has had no experience with Hyperemia and tuberculin. With the *x*-ray he has had good results from deep raying. Garre also spoke of the after-treatment as being very important, the stay in high altitudes is especially to be recommended.

Vulpius spoke of the treatment of tuberculosis by living in dust-free atmospheres and recommended the sanatorium treatment.

Heller of Leipsic curets out the osteomylitic area and after sectioning a piece of muscle inserts it into the cavity. This has been done by Bier for some time past.

Wilms of Heidelberg has had good results in treating tubercular bone, joint and gland infections with the *x*-ray. He uses also the Quartz lamp but has not had as good results as has Konig.

Iselin of Basel also reported good results from the use of the *x*-ray. However in all cases before the application of the *x*-rays the sequestra must be removed.

It was also brought forward by Menne of Bad Kreuznach that economical considerations must not be lost sight of in treating tuberculosis of joints and bones in the adult. Here it is necessary to have the patient recover as quickly as possible in order that he may continue his work.

Bier reported good results on patients treated without fixation, with potassium iodid internally and with hyperemia. Out of 51 cases only 3 had cold abscess; cases were demonstrated; however, they were mostly of the knee and ankle.

Quervain from Basel reported that out of 1500 operations performed recently in Basel only 5 were done for joint tuberculosis and 3 for glandular tuberculosis. Operative treatment for tuberculosis is now not modern.

Ritter reported good results from hyperemia.

Konig of Marburg has had the most excellent results from the treatment of joint and bone tuberculosis by the mercury lamp (the ultraviolet rays). He has had a few burns but they heal quickly; the action is the same as that obtained from the sun. At first the exposure is for five minutes which later is increased to one hour.

The afternoon session opened with a paper by Muller of Rostock. He brought forward the use of oxygen in the treatment of infections from the gas bacilli. He repeats the injection every few days. In one case such a quantity of oxygen was injected into the tissues that the patient has a general emphysema.

Kausch from Berlin spoke of the action of collargol, in thrombophlebitis, puerperal fever, and empyema. Its injection for calcium (in 1 per cent. solution) gave good results.

Schlossman spoke of the value of the estimation of the clotting time of the blood and its advantages for surgery.

Stammler of Hamburg presented a woman as healed, who had had a carcinoma which was healed through the injection of glycerin extract made from an excised piece of the tumor.

On Thursday the session was opened by Kuttner who introduced the discussion on duodenal ulcer. He spoke of the frequency of duodenal ulcer with appendicitis and the possible relationship of the two; this relationship being most likely through the vegetative nervous system. Of the symptoms he held that hunger pain is not always characteristic and frequently is not present. It is due to spasm of the pylorus which in turn is the result of the excess of hydrochloric acid, in other words the pain is a reflex phenómenon. Hunger pain is also found in ulcer of the lesser curvature of the stomach in gastric carcinoma (pyloric) and in appendicitis. A rather characteristic sign however is an increase of the gastric secretion, the so-called Reichmann's disease. This has frequently been found without apparent cause, yet later a duodenal ulcer would be discovered.

Pressure pain (diffuse) is also present to the right of the midline. Spontaneous stationary pain is also present to the right of the median line; when present on the left, it points against gastric ulcer.

Radiology also gives an indication of the presence of duodenal ulcer. The diagnosis is principally between ulcer ventriculi and gall-bladder conditions. The prognosis is more unfavorable than in cases of gastric ulcer. Perforation has a mortality of 40 per cent. and very seldom metamorphoses into carcinoma.

Internally duodeual ulcer is treated by atropin, etc.; the operative treatment is both direct and indirect. In the direct the ulcer is excised, this however can not always be done, because of stenosis, etc. Resection of the ulcer-bearing segment of the duodenum has also been done but it is difficult and dangerous.

The indirect operative treatment is by gastroenterostomy. However this is no guarantee that the ulcer will be cured. It is now common for the pylorus to be artificially closed by silk ligature (which is not good), by a fascial ligature (Wilms), by crushing (Bier), or by section and closure of the gastric and duodenal ends as practiced by the Mayos. For the after-treatment, rest in bed is indicated, and then a cure at Karlsbad or at Kissingen.

For perforation, closure is performed, or a piece of mesentery or omentum is inserted and sewed into the opening, or if the opening is too large or dangerous an omental cuff of the omentum is made, which reaches to the abdominal wall and drainage is made through it.

van den Velden from Dusseldorf spoke of the methods of hemoptasia in gastric and duodenal ulcers and strongly recommended the injection of a hypertonic salt solution (10 per cent.). This increases the clotting power of the blood, at the same time gelatin is also injected. Opium in small doses reduces the peristalsis; in large doses it increases it. Pain often occurs after its use, this is due to the increase of the peristalsis. However if belladonna is used with the morphin it counteracts the excessive activity of the morphin.

v. Bergmann of Hamburg gave a most interesting and instructive address in regard to the relation of the duodenal ulcer to the vegetative nervous system. First he decribed the symptoms of duodenal ulcer a little more fully than did Kuttner; he made the statement that the pain of pressure is due to direct pressure exerted on the ulcer; he also agreed with Kuttner that the spontaneous pain was due to the pyloric stenosis with hyperacidity and resulting hyperperistalsis. He also mentioned the Reichmann disease as a symptom. He claimed that the increase of the gastric secretion is due to a stigmata of the vegetative nervous system. Though this may not be the cause, it at least is frequently associated.

Haudeck from Vienna showed how from the *x*-ray the duodenal ulcer can be diagnosed from the remains of the bismuth which one sees after a test meal.

Gundermann brought forward the fact that duodenal ulcers are frequently caused by emboli.

v. Haberer of Innsbruck demonstrated three cases of ulcus pepticum jejuni. In these cases he was forced to resect a portion of the jejunum.

v. Schmieden regards the duodenum as a mixing pot for the stomach contents.

Frederich of Konigsberg reported 193 cases of stomach and duodenal ulcer and carcinoma; of these 186 cases were of the stomach. 158 were carcinoma and 28 were ulcer; of seven duodenal cases 2 were ulcer and 5 carcinoma.

Bier remarked that the reason that duodenal ulcer was not more generally diagnosed was due to bad diagnosis and not to the fact that the ulcer was not present.

Ach of Munchen constricts the pylorus by drawing a band of fascia, which he derives from the fascia lata of the thigh, tightly around it.

Kolb remarked on the method of anastomoses and showed by drawings how the communication between stomach and intestine should be made.

Thursday afternoon Rehn of Jena demonstrated a new instrument for examination of the large bowel. It has a flexible end. which bends in one direction to an angle of 90; rotation of the instrument will straighten it out and thus give a direct view, much higher than one would otherwise obtain.

Boit showed that absorption from the pleural cavity is in two directions, the visceral and the parietal. He claims that the absorption is not through stomata but is the direct result of the activity of the endothelial cells. The absorption is from the surface to the bronchus and then to the mediastinum. Pleural absorption, peripheral, extends out as far as the muscles on the thorax. The mediastinum is the pump which causes this lymphatic absorption.

A case of sarcoma of the chest wall was presented in which there had been an associated emphysema. After removal of the sarcoma and the four ribs which had been involved, the emphysema was improved. This could be accounted for only by the fact that the extra space given to the lungs made the blood flow through the lungs easier so the dyspnea, which in emphysema cases is generally present, quickly disappeared.

Kuttner presented a specimen of a femur and pelvis. The upper end of the femur had been resected one and a half years previous and a transplant from a dead body had been immediately made. The cartilage and all was intact and appeared normal but a microscopic examination showed that the cells had all degenerated. The muscles had implanted themselves into the bone (in the right place) and the joint capsule was reformed and the function was good; however, no direct connection between the implanted bone and the femur had occurred.

Transplantation may also be made from the ape; however, before implanting the bone, an autopsy should be performed on the ape fifteen minutes before the transference, to see if he is healthy.

Hildebrand of Berlin presented a patient with facial paralysis on whom many operations had been performed for the correction of the drawing over the angle of the mouth. He resected a part of the sternomastoid, reflected it upwards under the skin of the neck and lower jaw and attached it to the subcutaneous tissues at the angle of the mouth. The result was good, except when the patient laughed; when she did so the corner of the mouth was drawn over to the unparalyzed side. It is likely that the patient will re-educate the nerve supply to the muscles so that the cosmetic effect, which is now not so good, during laughing will be as good as it is during repose.

Stein to correct the drawing over of the mouth uses a piece of fascia from the temporal muscle which he attaches to the angle of the mouth (paralyzed side).

Lexer of Jena spoke of transplants, especially of bone. In his cases everything appeared normal, even the cartilage, but in microscopic examination it was found that the cells were dead. In all cases, where a heterogenous implant is to be made, the receptor should be immunized against the giver (spender). He also presented a case in which an aneurysm of the femoral artery had been resected and a direct transplantation of the saphenous vein had been made. The result is most excellent, the pulse being felt in the femoral and the pulse in the foot (transversalis pedis) being controlled by pressure on the femoral (implanted vein). This is the ninth successful case in the literature.

Roepke of Barmen demonstrated a case of hip joint in which free fat had been implanted; this is the only tissue which keeps alive, the others are absorbed. Before implantation the joint must be very clean and dissected free of all tissues (foreign).

Konig of Marburg demonstrated his ivory models of the upper end of the humerus and femur, for implantation. The bone is implanted in the space formerly occupied by the bone whose place it takes, the tissues are then pushed tightly around it and muscles are sewed directly around it. On the diaphysial extremity of the inserted piece is a slight extension which is pushed into the medullary cavity of the diseased bone. Ivory splints are used in case of fracture. A case of a patient who had a sarcoma on the femur was demonstrated, the tumor was removed and with it a part of the external condyle, an ivory model of the removed bone being implanted. The movement of the limb is fair and the patient can walk.

Eden of Jena reported a case where, after injury, the radial nerve was paralyzed. On operation the radial nerve was found imbedded in scar tissue. It was dissected free and fat was placed completely around it. Healing was good, the function of the nerve returned.

Riedl spoke of a case in which the head of the femur was removed for tuberculosis. The diseased area was curetted and the head was reinserted, good results following.

Rehn reported good results from tendon transplantation.

Schmieden demonstrated a case in which, owing to a central defect (operation) in the lower jaw, a piece of the tibia was inserted, this was further aided by the use of a dental bridge. Result is extremely good.

Hayward demonstrated a case in which because of mastitis the greater part of one breast was removed, care being taken not to a buttonhole the skin. Fat from the thigh was removed and inserted into the defect; the result was perfect. If the skin is button-holed a fistula difficult to heal results.

Friday proved a most interesting day. The session opened with a discussion on Brain and Spinal Cord Surgery, introduced by Prof. Eiselsberg of Vienna. He has operated on 162 cases diagnosed as brain tumor. Of these 96 were of the cerebrum, of which 9 patients died (5 from meningitis, 3 from shock and 1 from pneumonia).

He has had one case of a calcified glioma. He had several recurrences after an apparent healing. In two cases of tubercular tumors, miliary tuberculosis resulted and death quickly occurred. Trauma in one of his cases was followed by a tumor one year later. Marcellement is the best method to remove the tumor—especially so an accousticus tumor. In one case he found a double-sided cerebral tumor. For ventricle drainage when necessary he uses a gold-plated silver tube. He frequently does a cortical puncture. After operation urotropin is given. It has an antiseptic action on the cerebrospinal fluid. Local anesthesia with scopolamin is used. He frequently allows the dura to remain open.

As a rule local anesthesia is used and the operation is performed in two stages. To stop the intralamellar blood flood he has had ivory pegs constructed and with them a small instrument with which a peg may be grasped and driven in by a small hammer, which he also showed.

The best way to extirpate the tumor is by means of the finger. To fill up a gap in the dura, fascia lata from the thigh is used. For hypophysial tumors he has used the method of Cushing but believes that he will return to the method of Krause. Since the most frequent cause of death is shock, he does the operation in two or more stages.

Ranzi of Vienna spoke of the good results obtaining by the operative treatment of spastic paralysis of the lower limbs. He also spoke of a case of gastric crisis in which the spinal roots had been resected and then later the vagus, with cure of the pain and no bad after effects. Out of 119 cases of spinal cord tumors operated on, 30 patients died. He always operates on one side but makes a wide exposure. Uses general narcosis (ether) with scopolamin.

Goldman of Freiburg then related several interesting experiments which he has made with the choroid. From these he concludes that the choroid is similar in function to the placenta; that is, it acts as a blood filter and removes all the deleterious materials. The plexus cells are thought also to have a secretory action.

Kuttner of Breslau spoke of the advantage of brain puncture over spinal puncture. In 52 out of 92 cases of brain tumor operated on the results were good.

Schlosser of Prag spoke of the disturbances to sight due to a developmental defect following the too early uniting of the sutures at the base of the skull. He treats such cases by decompression and performs the operation in two stages, the opening of the skull, and the removal of the top of the optic foramen. For it is due to pressure against the top of this foramen that compression of the optic nerve, with the consequent disturbances, occurs.

Oppenheim spoke of the difficulties of diagnosing brain tumors and the discouraging results obtained by operation.

Borchardt of Berlin demonstrated a case of sinus pericranii, in which the skull at places was as thin as paper and on the inner surface of which were seen numerous sinuses and deep depressions in which the vessels had run.

Hildebrand of Berlin had a more hopeful view of brain tumor operations than did Eiselsberg.

In the symposium on the urinary organs and seminal vesicles Kummel of Hamburg gave mostly statistics. Riedel of Jena had a case in which there was a congenital defect of the urethra. This was remedied by implanting a piece of the saphenous vein; the result is good.

Voelcker of Heidelberg reported a case of a man who had rheumatism (so-called) of the different joints for years in whom a urethral discharge was finally noticed; the gonorrhea was localized to the seminal vesicles. After their removal the patient immediately improved.

On Saturday the surgeons who took part in the Balkan war had their innings, for the morning was devoted entirely to war surgery, and many were the experiences and object lessons which were recounted of the Balkan war. Goebel of Breslau, however, spoke of the war in Tripoli. He was on the side of the Turks and showed many pictures, etc., of the arrangement of field hospitals, tents, etc.; he also showed pictures of a Roentgen apparatus which had been erected outside of the surgical tent. He found chloroform very useful.

Coenen of Breslau spoke of shot wounds. He found that over two thirds of the cases of shot wounds got better without any treatment except the primary bandage. He also had a perforation of the stomach, both anterior and posterior, which healed without any further reaction.

He has had many phlegmons and septic after-bleeding. In one case a septic peritonitis developed after the application of the Momberg turniquet on patient with septic pelvis. Aneurysm was fairly frequent, in some cases an arteriovenous aneurysm developed. Nerve injuries were also present. They were both direct and indirect, from callus, etc. In one case a patient had been shot in the back but was not immediately aware of it. He felt as though he had received a push in the back, and then he fell to the ground. On arising he was not able to walk and found his limbs partially paralyzed. The bullet had penetrated the spinal column.

Kirschner recommended starch bandages and mastisol (a fluid which has great adhesive and antiseptic properties and is much used in the German clinics, instead of collodion) as dressings for fracture cases which are to be transported.

Frank of Berlin recommended that all wounds be allowed to remain quiet and that the sound be banished. Iodin gave good results. He had had 87 wounds of the thorax which, without interference, healed with good results.

Colmers was also in favor of allowing all wounds to remain quiet.

Clairmont of Vienna also emphasized the advantages of the noninterference treatment and has had wonderful results.

Ach of Munchen spoke of esophagus surgery. He claimed that both vagi may be cut without any post symptoms. In four cases he made a resection of the esophagus, a tube was passed down on the inside of the esophagus which was then attached to the lower end, the esophagus was now drawn up into the neck, and then pushed down along the anterior surface of the chest, immediately beneath the skin. At the same time free end of the stomach was drawn underneath the skin of the thorax to the same place; the stomach and esophagus were now united. Out of four cases he has had one death from cardiac dilatation. In operating in the mediastinum, pressure on the pleura must be very slight, as there is great danger of perforation.

Roepke of Barmen demonstrated a method of cardio-esophagectomy in which he took lower part of the greater curvature of the stomach, partly resected a part of it and reflected it upward and made a tube of it to which he attached the free end of the esophagus descending beneath the skin of the thorax.

Hummel demonstrated his technic for the extension of the stomach in cases of cardiac tumor.

Heller suggested that in all conditions in which the vagus was involved that it should be previously cocainized.

Kehr of Berlin was very ill received as his paper consisted mostly of statistics against the exhibit of which the German attending a congress strongly protests.

Nordman in cases of septic gall-bladder lesions makes a drain, in some cases out of a piece of intestine. The part acting as drain is then resected from the remaining portion.

In regard to pancreatitis, Korte has operated on three cases all of which healed. Two of these cases were diagnosed before operation.

Nordman of Berlin claims that one half of the cases of pancreatitis are associated with cholelithiasis. He found that the closing of the duct (pancreatic) in the presence of infected bile always produced an acute pancreatitis. In operating he always drains the gall ducts.

Dollinger of Budapest read a paper in which he demonstrated the importance of having the points of pressure in artificial limbs, trusses, ambulatory splints, etc., at the right point; he always has a cast made, on which he indicates the points of pressure. To this the splint or artificial limb is applied.

Perthes illustrated cases of osteochondritis deformans of the hip joint of youth; up to the present time he has had 21 cases. The trochanter on the diseased side is a little higher than the one on the well side. No pain is present, flexion is good. Abduction is inhibited. In the diagnosis the *x*-ray shows the difference between it and arthritis deformans. It shows a gradual melting away and disappearnce of the upper outer osteogenetic area of the head of the femur.

Tuberculosis is diagnosed by the joint being free. The tubercular reaction is also negative. The cause is some disturbance of nutrition.

COUNTY SOCIETY REPORTS.

Reports should be necessarily brief presentations of scientific facts and professional news. To insure publication these should be received within fifteen days from date of meeting, although it is sometimes necessary to hold over some of them for want of room.

BERKS—May.

At the meeting of the Berks County Medical Society held May 13, in the New Medical Building, Dr. Shoemaker presided and there were nineteen members present.

Dr. Runyeon read a paper on "Pruritus Ani" in which he said that a thorough search should be made for the cause of the disorder, which is due either to some constitutional disturbance, such as glycosuria, gout, rheumatism or lithemia, or to some pathological condition in the lower rectum or anus, while eczema marginatum is a frequent cause also to irritant vaginal discharges and catarrhal conditions of the rectum, to hemorrhoids, fissures and fistula, the surgical removal of these latter conditions often result in cure. In such cases there will be found an altered condition of the integument surrounding the anus which is thickened, wrinkled and parchment like; while others are due to pediculi. Again, diseases of the crypts of Morgagni are often responsible for the symptom, while Murray believes many cases due to streptococcic infection. Treatment consists in removal of cause, in attention to diet and the habits of life, and in surgical measures for cure of sinuses, fissure, etc., and severing of all superficial nerves.

Dr. Shoemaker followed with a paper on "Anal Fissure and Irritable Ulcer," due frequently to constipation and ulceration of internal hemorrhoids, in the passage of hard feces, as projecting substances may tear the anal mucous membrane and an anal valve which is followed by a hemorrhoid. The rectum itself being devoid of nerves of sensation accounts for the presence of diseases often malignant for some time before a patient is aware of it, while anal diseases are painful.

The chief symptom is pain after defecation, the lower the fissure the more severe the pain. As defecation causes pain, the act is postponed as long as possible which results in intensified suffering due to increased hardness of stools. Treatment consists in bathing the parts with hot water and the application of some bland ointment as icthyol, belladonna, opium, etc. In dilating the sphincter and excising the ulcer, pack with iodoform or icthyol gauze and rest the patient until healed.

CLARA SHETTER KEISER, Reporter.

BUCKS—MAY.

The Bucks County Medical Society met at Bristol, May 14, for the convenience of the lower-end members; President Brown, presided. There were ninety-two doctors and ladies present to enjoy the banquet.

Dr. Howard Pursell, Bristol, was elected a member of the House of Delegates of the state society.

A number of members aired their grievances against certain action of the Department of Health. Finally the following resolution was presented and unanimously adopted, "*Resolved*, that it is the concensus of opinion by this society that in those types of alleged failure to report contagious diseases, the county medical inspector shall be required to interview the attending physician and submit his statement along with that of the family and the other deponent."

In the matter pertaining to the reporting of births to the state as required by law, for the benefit of the state, without recompense, the following resolution was unanimously adopted, "*Resolved*, that the Bucks County Medical Society hereby endorses the House Bill No. 556, to provide a compensation for the executing and furnishing certificates of birth and death, and the reporting of contagious diseases as now required by the rules of the Department of Health for the benefit of the state."

Dr. J. Torrence Rugh, Philadelphia, delivered an address on the "Diagnosis of Diseases of the Bones and Joints by the General Practitioner." He gave many practical points in diagnosis between rheumatism, arthritis and tubercular joints in such a practical manner that they could easily be remembered and carried out in everyday work.

Dr. Frank F. Borzell, Philadelphia, lectured on the "X-Ray in Diagnosis of Diseases of Bones and Joints." He demonstrated his lecture by exhibiting *x*-ray plates and using an electric bulb and a simple device for reflection.

ANTHONY F. MYERS, Reporter.

CHESTER—MAY.

The Chester County Medical Society met at the Chester County Hospital, West Chester, May 13, at 2:30 P.M., with physicians present from every portion of the county. A number of bills pertaining to medical legislation were received, read and discussed, and referred to Committee on Public Policy and Legislation for immediate action. This committee also gave a full report of the circular issued by the Directors of the Poor relative to admission of insane patients, which was received by the society, discussed and the committee instructed to proceed along line which they have mapped out.

S. V. Cargile, representative of the A. M. A., gave an interesting talk on "Value of Membership," and he will canvass the county in an effort to increase the membership.

Dr. John A. Farrell made a report of his visit to Harrisburg and gave a very entertaining talk as to his experiences as a lobbyist in the interests of the bill prohibiting the sale of habit-forming drugs and had received promises from those prominent in the legislative bodies that the bill would be presented to the House and Senate.

In the symposium on the Throat and Ear, Dr. Pleasants read a paper on "Symptomatology and Treatment of Acute Otitis Media." Dr. Edward Kerr, in a paper on "Diseased Tonsils," gave his methods of operation for hypertrophied tonsils and adenoids; since using this method he has had very little hemorrhage; he also gave outline of subsequent treatment.

Dr. H. A. Rothrock read a paper on "When to Operate in Mastoiditis." The papers were discussed by Drs. Woodward, Patrick, Gifford and others.

D. Edgar Hutchison, Reporter.

DELAWARE—May.

The regular monthly meeting of the Delaware County Medical Society was held at Riverside Inn, Essington, May 8, at 3 P.M. Dr. F. Hurst Maier of Philadelphia, in a paper on the "Significance of Uterine Hemorrhage and Its Treatment," discussed in detail the various causes of uterine hemorrhage and as regards treatment took up the newer drugs which are proving useful in the various conditions. Extractives of the various ductless glands were among those discussed.

At 4:30 P.M. the meeting was adjourned and the members present were escorted to the grill room where they indulged in a delightful planked-shad dinner.

Walter E. Egbert, Reporter.

LANCASTER—May.

The Lancaster City and County Medical Socity met May 7, with President Miller and forty members present.

Dr. T. B. Appel read a paper on "Cervical Adenitis." Every period of a person's life is marked by some functional activity or growth and during child life lymphatics come into their own. For this reason there are more lymphatic diseases than at any other period. Lymphatic system is greatest defensive factor in individual's economy and represents battle ground of bacterial invasion. Lymphatic system of cervical region is divided into two sets, superficial, or those following external jugular vein; and deep, or those following carotid sheath. Infections get into deep lymphatics of superficial, are overcome and general toxemia or general bacteremia results. Infections of cervical glands are either acute, chronic or tubercular. Such organisms as staphylococcus give an acute infection with subsequent pus formation. So-called tubercular glands are usually result of mixed organisms, are rarely primary infections and after persisting for some time form "cold abscesses" and lead to sinus formation.

If you can locate the entrance of infection by removing same you alleviate all trouble. In looking for a cause investigate mouth, teeth, nasopharynx, nares and ears. Lesions of nares and nasopharynx cause cervical adenitis in ninety per cent. of cases, and many practitioners treat these areas as a routine in any case of cervical adenitis. In removal of a diseased tonsil care must be exercised to remove all diseased structure, because if a diseased base is left a cure is not certified. Look for nasal polypi, eczema of auricle, or middle-ear trouble as possible causes. It is a mistake to treat anemia resulting from adenitis and neglecting the condition. Surgically, glands present themselves in three groups: (1) Cases where there are symmetrically enlarged chains of glands on both sides of neck, associated with enlarged mediastinal glands; treatment consists in removing any possible foci of infection as diseased tonsils, giving child an abundance of nitrogenous foods and plenty of fresh air. (2) Cases in which there is an enlargement of a single gland, usually in submaxillary region; these glands, as a rule, suppurate and treatment consists in puncturing capsule and drawing; excision of acutely inflamed gland is poor surgery, as resulting wound is too large; if on incising capsule suppuration persists, excise gland; application of iodin or other irritants to acutely inflamed gland is poor treatment. Injections of iodin condensed with carbolic acid cauterization is of no benefit; Bier's hyperemic treatment is of benefit. (3) In third class are glands which remain enlarged for several months, then caseate and suppurate forming so-called cold abscesses, sinuses, etc.; these we classify as tubercular glands and radical removal is only available treatment, at same time giving attention to nose and throat and eliminating any possible point of infection.

Dr. John L. Atlee, in discussion, laid especial stress on liability of diseased tonsils and bad teeth to produce cervical adenitis. When a gland enlarges to size of a hazel nut and persists for four months or longer it is certainly tubercular. We have not conclusive evidence that tuberculin does all that is claimed for it and excision is better treatment. Remember that operation is major one and family should be informed. Drs. Roebuck, Walters, Kinzer and Appel discussed paper.

A vote of thanks was extended Dr. Appel for his paper.

Dr. Atlee reported two cases of severe hemorrhages in women in fourth month of pregnancy.

Case 1. Diagnosis, placenta prævia. Bleeding very severe; between one and one half pints to a quart. Through cervix could feel edge of placenta. Introduced Hirst's bag for two and one half inches, under aseptic conditions. In two hours woman had a chill and at end of twenty-four hours the bag was removed. Odor was terrible. Membranes ruptured and in forty-eight hours I was compelled manually to dilate cervix and deliver fetus. Patient was in critical condition, temperature 105°, pulse 160, but at present is doing better.

Case 2. History of severe bleeding. Opened abdomen, incised uterus, removed fetus and detached placenta. No shock, no infection. Doctor again called attention to apparent simplicity of abdominal route over vaginal route in difficult or dangerous cases.

Dr. H. C. Kinzer reported a case of stone in urinary bladder that was removed without operation. WALTER D. BLANKENSHIP, Reporter.

PHILADELPHIA—APRIL.

The Philadelphia County Medical Society met April 23, at 8:30 P.M., with President C. A. E. Codman in the Chair.

"Marked Arthritis Deformans, Greatly Improved by Physical Means" was given by Dr. A. B. Hirsh. The patient shown had been through usual course of treatment and had gone the round of different spas without benefit. She was very much bent and obliged to use a cane in walking. Treatment has been by electrical methods alone, statis and high frequency coil currents. Bacterial infection was excluded by laboratory examinations and condition resolved itself into one of long-continued absorption of toxins from roots of teeth. Case shows the value of long-continued physical treatment in those cases otherwise almost impossible of relief.

"A Modern Extraperitoneal Cesarean Section and the Best Technic for its Performance," was given by Dr. Barton Cooke Hirst, the operation being illustrated by a series of drawings. Incision is made below umbilicus, large enough to extract child's head. After making incisions in two layers of peritoneum they are sewed together, which immediately closes the peritoneal cavity, making operation extraperitoneal. Then follows incision in uterine wall made in ordinary way, and extraction of child's head with forceps. Lower uterine segment is sewed with double catgut and the abdominal wall closed in the usual way. It has been found to increase hemorrhage if the placenta is delivered from the uterine wound. It is rather better to clip the cord off, drop it into the uterus, sew up uterus and deliver as usual. If woman is not in labor it is necessary to extract the placenta through uterine wound.

Dr. John B. Deaver: The fact that Dr. Hirst is one of two who have done this operation in this country and that he has done nine of the ten operations done speaks for itself from standpoint of experience. It always appeals to me as good surgery to deal with the condition extraperitoneally. By Dr. Hirst's technic there may, it seems to me, be perhaps a little greater danger to life of child.

Dr. George M. Boyd: The lowered mortality in Cesarean section has led some of our American surgeons to resort to the extraperitoneal operation. I believe that Cesarean section is a child-saving operation.

Dr. William R. Nicholson: I have witnessed two thirds of the operations which Dr. Hirst has performed by this technic. Within five years I believe there will be a larger percentage of men doing this operation in selected cases. Statistics do not prove that true extraperitoneal technic is any better than transperitoneal method. Dr. Hirst has used a continuous stitch which seems to be absolutely tight and leaves a space of 8 or 10 cm. and 3 or 5 transversely. True extraperitoneal method has not a point of any advantage. If case is septic, patient will die just as readily no matter which technic is employed. The general obstetric operator who has not facilities for becoming especially expert in technic I believe will do better to adhere to intraperitoneal route.

Dr. E. E. Montgomery: One of the diagrams seems to show that Dr. Hirst opened peritoneum and made his operation extraperitoneal by closing up peritoneum on either side. Without question this is an operation which is preferable to the method known as the pure extraperitoneal. Every operation must be judged by its mortality, morbidity and conditions in event of subsequent pregnancy. Statistics indicate that there is not great demand for an extraperitoneal operation in the ordinary case where there is no reason to suspect infection. Section of peritoneum in Dr. Hirst's method lays bare the uterus and I should like to ask what influence this has upon action of bladder.

Dr. Edward P. Davis: Dr. Hirst's description of this technic is an interesting contribution, but operation is not the extraperitoneal section that I have seen. I welcome, however, most heartily this method of delivery through a peritoneal fistula. I should like to know what Dr. Hirst would do in cases of sepsis. Personally I should not like to employ this method in presence of hemorrhage or in cases in which I had doubts as to condition of uterine muscle.

Dr. J. L. Forwood, Chester: I have done Cesarean section forty-two times in Chester Hospital in a period of ten years. My operations have been intraperitoneal. A vertical incision is made through abdominal wall in usual way. I formerly made incision large enough to lift uterus out and then opened uterine walls and delivered. Now, I operate by cutting through anterior surface of uterus an opening large enough only to deliver child. Hemorrhage has been controlled by uterine arteries being held by an assistant's placing a hand on either side. I do not cut low down in lower segment for I believe much of the hemorrhage comes from fundus of uterus. When the uterus has been sewed up ergot is given hypodermically. In three of the forty-two cases instruments had been applied and there was infection. I operated on one woman four times, upon three other women, twice.

Dr. H. S. Wieder: I should like to ask Dr. Hirst what effect this technic has upon involution of uterus following labor, and whether there have been any symptoms referable to the bladder from interference with this band of adhesion reaching from anterior abdominal wall to lower segment of uterus?

The paper was further discussed by Drs. Foulkrod and Bland and closed by Dr. Hirst.

Howard Childs Carpenter, Reporter.

SUSQUEHANNA—May.

The Susquehanna County Medical Society met at the Public Library in Montrose, May 6, at 11:30 a.m., with ten members present. Dr. Goodwin of Binghamton and Dr. Stiles of Owego, formerly active and now honorary members, were also present. The meeting was opened with prayer by Rev. F. A. Alden. The secretary reported the action of the Executive Committee in regard to this meeting and presented the program, which stated that the business would all be transacted at the morning session, and adjournment to the Montrose House, to attend a banquet commemorating the ninetieth birthday anniversary of Dr. Calvin C. Halsey, which occurred March 31.

The proposition to amend the by-laws, by striking out the section exempting all the members over seventy years of age from the payment of dues, offered by Dr. Birdsall at the last annual meeting was on vote unanimously adopted. The amendment of the by-laws offered by Dr. Wilson at the same meeting, changing the annual dues from $2.50 to $3.00 was also, on vote, unanimously adopted. On account of the low condition of the treasury, it was resolved that an assessment of $3.00 be levied on each member, to be paid January 1, 1914. This action was unanimous.

Dr. Peck made a brief report as delegate to the meeting of the state society held in Scranton, last September. He made especial mention of the report of Dr. Dixon, commissioner of the Department of Health. This elicited a free discussion in regard to the examination of school children.

Drs. Peck and Gardner were appointed a committee to prepare resolutions relative to the death of the late Dr. Samuel Birdsall.

No meetings of the society having been held during the past year, it was resolved that the present officers be reëlected, and the secretary was directed to cast the ballot for them

The Society adjourned to meet at the Montrose House at 2:30. Most of the members were accompanied by their wives or other ladies, and twenty-five persons took seats at the center table in the spacious dining room. Rev. Mr. Alden invoked the divine blessing. A very elaborate menu was served to a company having keen appetites, and was leisurely discussed and enjoyed. President Blair acted as toastmaster; Dr. F. S. Birchard spoke on "Advances in the Practice of Medicine since the Middle of the Nineteenth Century"; Dr. A. E. Snyder, on "Comparative Facilities for the Practice of Medicine during the Past Sixty Years"; Dr. D. J. Peck, on "Our Medical Society—Its Past and Future"; Rev. F. A. Alden, on "The Minister and the Physician"; the toastmaster made a few remarks and read letters from Drs. Beaumont, Brundage, Dunbar, Harrison and Hines, expressing regret of inability to be present, and extending felicitations to Dr. Halsey.

But for the lateness of the hour, there would have been impromptu speeches from several visiting brethren. The day was too short.

The guest in whose behalf this banquet was tendered, expressed his heartfelt appreciation of the honor and attention bestowed on him. He said it would be one of the green spots in his earthly pilgrimage.

After leaving the dining room, there was a social time. All rejoiced in the success of the occasion. Calvin C. Halsey, Reporter.

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ORIGINAL ARTICLES.

ISOLATED SCLEROTIC INVOLVEMENT OF THE MITRAL VALVE.

BY ROBERT N. WILLSON, M.D.,
Philadelphia.

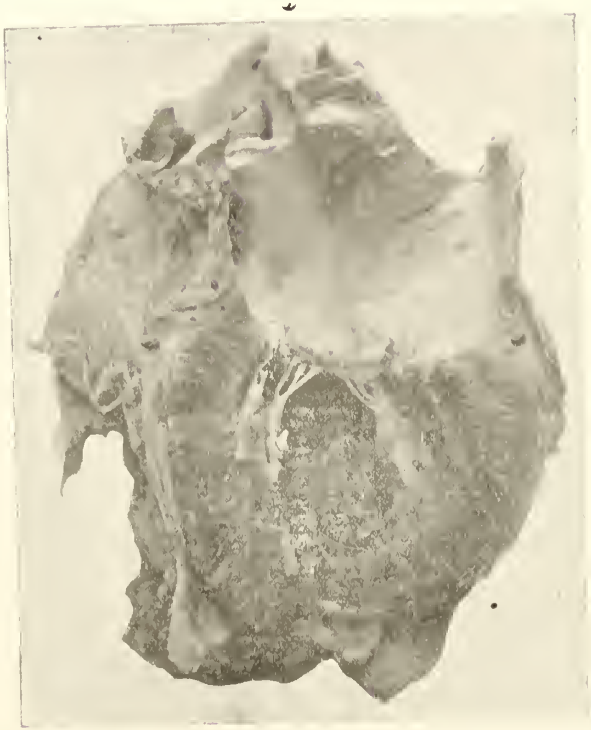
(Read in the Section on Medicine of the Medical Society of the State of Pennsylvania, Scranton Session, September 26, 1912.)

The frequency of occurrence of mitral valve deformity and disease independent of and in the absence of other cardiac valve implication is one that has received attention only, as a rule, from the standpoint of vegetative endocarditis. It has been described customarily as rheumatic in origin, and, at least in its acute forms, has been regarded as a part of true bacterial rheumatic disease. Sclerotic thickening and deformity, causing insufficiency or stenosis, and oftentimes both anatomic effects, have received scant attention at the hands of students of the heart, and perhaps less than has been merited by their actual frequency and interest. Both in a considerable experience upon the wards of the Philadelphia Hospital and in the occasional autopsy opportunities of private practice I have been struck by the purely sclerotic nature of occasional mitral lesions which, during life, I had been led by the history of the case and its course while under my observation to regard as subacute recurrences of a bacterial endocarditis of a purely vegetative type. Usually the physical signs have indicated mitral insufficiency or mitral stenosis, or both. Less frequently the indications have been those of purely aortic disease. Irrespective of the location, my attention has been attracted by the sclerotic nature of the process, and my interest aroused by the necessity of inquiring whether or not I had erred in my understanding of its etiology. I am ready to confess that with each new instance, in spite of the occasional association of tonsillitis, joint symptoms, or even pericardial inflammation, I have been forced to look away from acute rheumatism as a satisfactory explanation of the lesion, and to search for more likely immediate cause.

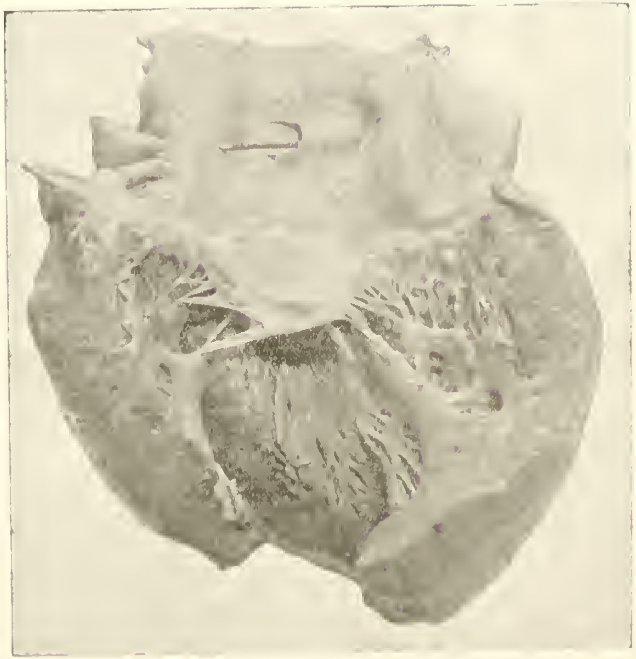
In this brief and, as yet, incomplete study I will refer only to the sclerotic changes of the mitral valve that occur in the absence of apparent lesions of the other cardiac valves. In another communication I shall hope to point out the significance of similar processes limited to the aortic valve.

THE ANATOMIC LESION.

I have already referred to the fact that I have studied on the autopsy table a number of examples of pure sclerotic insufficiency, also of the rather more frequent combination of sclerotic stenosis with insufficiency of the mitral valve. I have never seen such a stenosis without an accompanying anatomic insufficiency, though not always of such a character as to furnish the classical auscultatory signs. I have with almost an equal infrequency observed a purely fibrosclerotic insufficiency without a deformity amounting to an anatomic stenosis, though far less regularly did the patient during life show either the physical signs or the symptoms of valvular obstructive disease. The photographs thrown on the screen are illustrative of isolated sclerotic involvement in certain instances of



1. Sclerosis of the mitral valve. Great hypertrophy of the left ventricular wall.



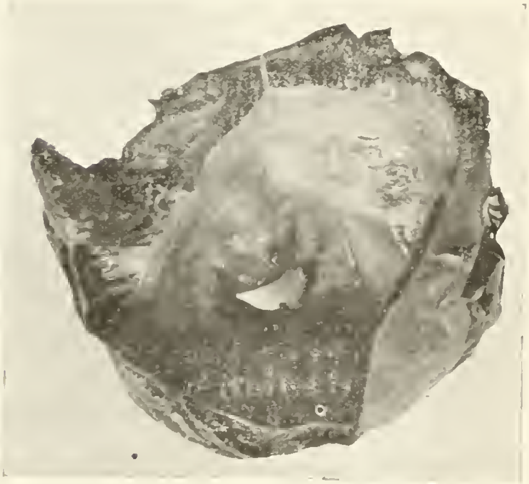
2. Scletrosis and atheroma of the left auricular wall and of the mitral valve.

the aortic and in others of the mitral valves.

Microscopic study of the diseased valve leaflets and cusps, so far as it has been carried, has shown in the comparatively early cases the typical changes of a fibrosclerosis. In the more advanced cases, atheromatous degeneration is often superimposed, and in a large percentage lime salts have been deposited and resulted in a greater or less degree of calcareous change. There has been an entire absence of bacterial findings, and, as far as staining methods are concerned, there has been a complete failure to demonstrate the presence or the causal influence of bacterial forms. I shall later refer to the possibility of demonstrating the spirochæte in such tissue. Suffice it now to say that the recent success of a number of laboratory workers in staining the *Spirochæta pallida* in sections of the aorta that have been kept in preservative fluids even for a number of years encourages one to believe that we may yet be able to determine a causal organism in at least those instances that depend upon the *Spirochæta pallida* for an etiologic factor. All grades of fibrosis of the mitral valve have been observed, from the slightest possible thickening to a gross deformity, such as is seen in the accompanying photograph.

THE PHYSICAL SIGNS AND CLINICAL COURSE OF THE DISEASE.

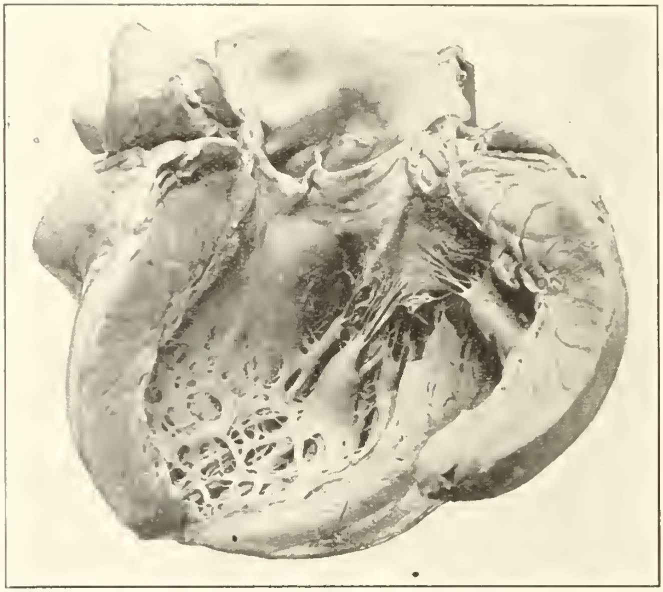
I know of no clinical method of distinguishing the sclerotic type of valvular disease from the vegetative, except in the probable exclusion of syphilis from the etiology by the Wassermann test. In nearly all of the cases that have come under my observation syphilis has either been admitted by the patient or there has been sufficient reason to believe that such an admission would be in order. Many instances of hereditary lues are evidenced in childhood by fibrous arteries and by sclerotic involvement of the myocardium and of the valves, now the mitral, now the aortic, seldom both in the same case prior to late adult years. Several years ago I reported a study of the heart of a child of four years dying of rupture of an aortic aneurysm. The aortic valve was so completely closed by sclerotic thickening and deformity as to cause wonder that enough blood could have passed its ring to maintain life. The child's arteries were of the pipestem order. The mother was apparently healthy, but the father had a slight degree of saddle nose, and developed epileptiform convulsions at thirty-one years. His case was in all likelihood one of latent hereditary syphilis or a none too frank instance of the acquired type.



3. High grade sclerotic involvement of the mitral valve resulting in stenosis and insufficiency.

In a few cases of this nature I have neither been able to obtain an admission from the patient that luetic infection has taken place nor have I had any reason to think the statement of his freedom from infection was incorrect. I have seen cases that clinically resembled tonsillitis and rheumatism with endocarditic involvement, which later at the autopsy showed an isolated sclerosis of the mitral valve. I remember at least one little girl that gave a history only of recurrent tonsillar swelling, yet whose arteries and mitral valve were as rigid as those of an old woman or man. To the question, What is the exact nature of such a case? I reply that I do not yet know. Only a searching study of sections of the arteries and the valve leaflets of such cases will exclude the spirochæte, and only the Wassermann test, employed as a routine measure in cardiac disease, will assist in the diagnosis *in vivo*.

Certain it is that these sclerotic changes occur in the absence of the classical signs of acquired syphilis. Equally sure it is that syphilis not infrequently causes a symptom complex indistinguishable (except by laboratory means) from that of both acute inflammatory rheumatism and of tonsillitis, and that in not a few instances it can and does leave permanent traces in the form of thickening and deformity of the mitral leaflets. Whether it is the usual cause of these isolated scleroses is another matter. I have noted two instances of sclerotic involvement of the mitral valve in sisters, members of a family in which a large number of the recent ancestry had been tuberculous. One parent, the mother, had died in early life, probably, though not certainly, of tuberculosis. The father died of a systemic nervous disease that may easily have been luetic in origin. The children of this parentage, five in number, have all shown evidence of cardiac valvular disease which in at least two instances was limited to the mitral valve. Thus we have the possibility of a tuberculous influence, and the certainty that syphilis may and does sometimes produce such a picture alone.



4. Fibrosis of the mitral valve. Marked dilatation of the left ventricle and relative mitral insufficiency. Great hypertrophy of the papillary muscles.

Whether other infections may constitute or independently cause isolated valvular sclerosis can only be determined by a study by many observers of a large series of cases. Dr. James M. Anders, who, I regret, is unable to be present to discuss the subject in company with Dr. Hare, has informed me that he has studied two interesting cases of this type of mitral involvement in which the causative factor remained unknown. Whether or not acute infectious rheumatism can and ever does cause sclerosis of the valvular tissues is also a point to be considered. As a rule fibrosis does not form even a prominent feature of the damage consequent upon this disease. Vegetative endocarditis is so generally and so predominantly the order of the day that this type of valvular disease has come to be regarded as the expression of rheumatism of the endocardium. We may therefore, I think, safely pass it over as an unimportant factor in the etiology of the condition under consideration. The books have seemingly overlooked mitral sclerosis to a great extent, and seem to have recognized an isolated implication of the bicuspid valve not at all.

POSSIBILITY OF ANTEMORTEM DIAGNOSIS.

From my experience in the cases studied I am inclined to believe that all patients with sclerosis of the mitral valve, whether associated with other valvular involvements or isolated, will be found also to present distinctly sclerotic arteries, irrespective of the age. The child of four years, already mentioned as dying from a ruptured aortic aneurysm, had brachial and radial arteries that would have done credit to an intemperate old man. This early arteriofibrosis, together with a premature overaccentuation of the second aortic sound and a tendency to hypertrophy of the left ventricle, will in the presence of the signs of developing mitral disease afford reason to anticipate fibrosis rather than a deposit of lymph and bacteria as the condition of affairs likely to be revealed at the autopsy. A definite history of syphilis or tuberculosis in the patient or in his or her parents will go far toward rendering presumptive evidence certain.

PREVENTIVE MEASURES AND TREATMENT.

The only certain prophylactic measure would be prevention of marriage among the unfit. The question of the right to marry among those who are morally certain to transmit stigmata if not actual disease is not a proper subject for a strictly clinical discussion. It has its bearing, however, immediately we begin to consider the prophylaxis of valvular disease.

I doubt whether in the presence of sclerotic arteries in child or adult very much can be done in the way of forestalling sclerotic heart change. Both the cardiac muscle and the valve leaflets seem destined to proceed in the course which they have begun before the presence of a toxic factor has been recognized. It is probably too late for us to expect much valvular benefit from antiluetic medication, though in the presence of repeatedly positive Wassermann reactions thorough courses of arsenic and mercury should be instituted. The studies of Finger and of other reliable investigators would seem to render it likely that hereditary syphilis is an incurable disease. In the absence of such indications as those of lues we are peculiarly helpless against its insidious march. The treatment therefore again reverts, in the present very imperfect state of our knowledge of the etiology of these conditions, to a new interest in human eugenics, and to precautionary breeding measures that will prove at least as intelligent in the reproduction of the human species as in the raising of healthy cattle, horses, and hogs. We are still a far cry from persuading men and women that any reason or unreason should stand in the way of marriage when the parties primarily concerned see fit. We may advance a pace, however, if we ourselves succeed in realizing and informing the lay public that posterity is the most important of the three (not two) that are seriously involved.

DISCUSSION.

Dr. Alfred Gordon, Philadelphia: I want to corroborate the statement regarding the occurrence of sclerotic involvement of the valves of the aorta in parasyphilitic diseases. Before the spirochæte was discovered, the occurrence of a sclerotic condition of the aorta in tabes and paresis was entirely overlooked. Since the discovery of the spirochæte, attention has been called more and more to the involvement of the aorta in paresis and tabes. I made a special point of examining cases of this character coming to autopsy. In almost every positive case I found all the clinical evidences of aortic involvement. The question of syphilis here comes in very well with what Dr. Willson has said. As the cause of aortitis is found to be identical with that of tabes and paresis the simultaneous occurrence of both is more than a coincidence. It is well to bear in mind, as Dr. Willson has said, that in every case of chronic involvement of the heart syphilis should be thought of besides other possible causes.

Dr. Willson, closing: Just a word with reference to a report of studies made by Finger in Vienna, who four years ago published a long series of cases of hereditary or congenital syphilis in children. A series of these children had been treated by the mercury and iodin method, and another series with salvarsan. After a certain time (eighteen months) both series of cases were pronounced cured. Finger now reports the same two series, both of which had been reported as giving repeated negative Wassermann tests, both series now yielding positive tests, and all showing the spirochæte. They are, of course, not cured, and therefore is raised again the question whether, after all, syphilis is indeed curable. The presence of a high grade of sclerotic arterial involvement in the child is not only an indication for a definite line of treatment, but offers an unfavorable prognosis for the life of the child itself. When we find advanced arteriosclerosis in the little child we are likely to find also the same sclerotic involvement in the liver and kidneys, and almost certainly in the valves of the heart.

THE ARMY SURGEON.

You can not afford to stand aloof from your professional colleagues in any place. Join their associations, mingle in their meetings, give of the best of your talents, gathering here, scattering there; but everywhere showing that you are at all times faithful students, as willing to teach as to be taught. Show as most pernicious that frame of mind, too often, I fear, seen in physicians which assumes an air of superiority and limits as worthy of your communion only those with satisfactory collegiate or sartorial credentials. The passports to your fellowship should be honesty of purpose and a devotion to the highest interests of our profession, and these you will find widely diffused, sometimes apparent only when you get beneath the crust of a rough exterior.—Osler.

THE CORRECTION OF NASAL DEFORMITIES, PARTICULARLY LATERAL DEFLECTIONS AND DEPRESSIONS WITH OBSTRUCTING DEVIATIONS OF THE SEPTUM.

BY GEORGE MORLEY MARSHALL, M.D.,
Philadelphia.

(Read in the Section on Eye, Ear, Nose and Throat Diseases of the Medical Society of the State of Pennsylvania, Scranton Session, September 26, 1912.)

All degrees of the above mentioned deformities exist. This paper is concerned with disfiguring deformities only, most of which are combined with serious nasal obstruction. Commonly they have resulted from violent blows or falls, especially from baseball, football or fist encounters, yet, strangely enough, many unsightly nasal deformities start in infancy, with no record of injury. In the early period, before ossification has made much headway, undoubtedly the frequent habit of a child of lying on the face, with the inclination always on one side, may result not only in a marked deviation, but also in depression, and the frequent trick of flattening the nose in bed, against the window pane or the school desk, is not without its effect. Then the nasal processes of the superior maxillary bones, the chief buttresses of the nose, may with advancing ossification be fixed in a lower plane, a case in which the nasal septum must adapt its redundant tissue to its abnormally limited space, by single or double lateral curves, or by sharp angular deflections obtruding into and obstructing the nasal passage. With the approach of puberty, the nose enlarges, but the abnormal position of the bone continues, and the disfigurement is emphasized to an unsightly and often mortifying degree. It is at this time that the patient often seeks for relief, and although nasal obstruction may be making broad inroads on the health or

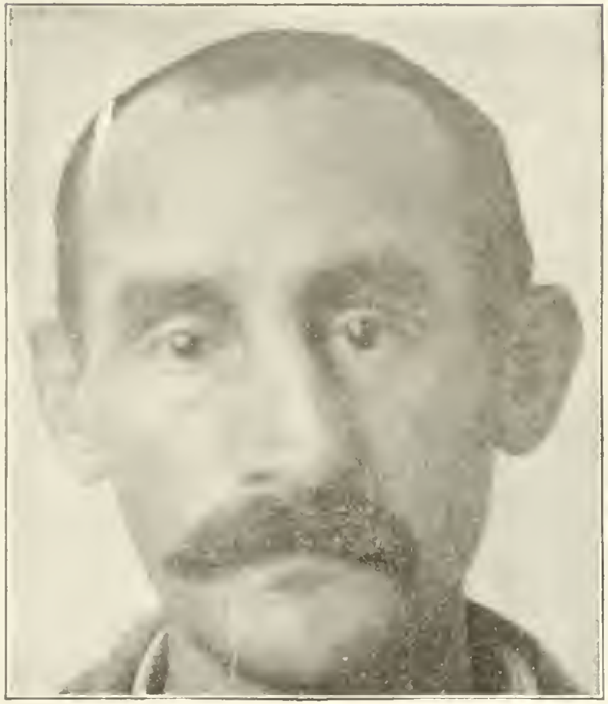


FIG. 1. Patient with nasal deformity, before operation.

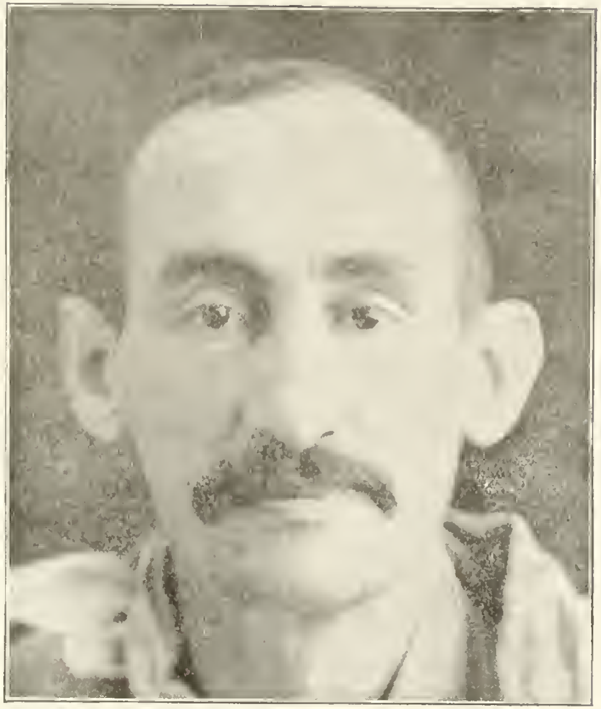


FIG. 2. Patient shown in Figure 1, after operation.

hearing, pride as to personal appearance is the moving factor for seeking relief.

A radical operation, such as I am about to describe, is likely to give a brilliant result, not only as to the external appearance but to the free nasal breathing. The septum, when once freed from the depressing effect of these lowered flying buttresses which are to be elevated, is allowed to rise and straighten, thus overcoming at once the deformity of depression and the obstruction of nasal breathing. At the same time a straight external alinement is made, and the nose is brought to the middle point. Often, however, a submucous operation on the septum must supplement this to free completely the nasal obstruction.

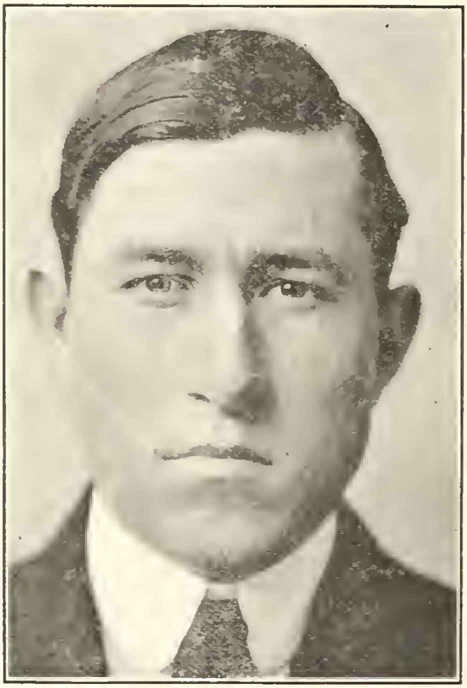


Fig. 3. Before operation.

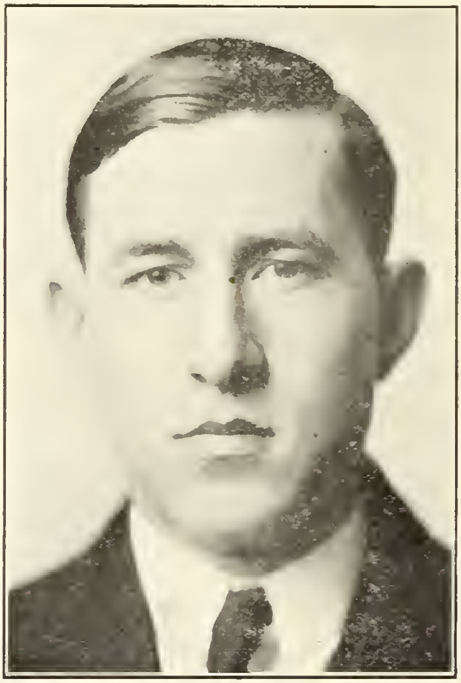


Fig. 4. After operation.

This operation has the following history:—

About seven years ago, during my service in the throat and nose department of the Philadelphia General Hospital, there applied to me in one day, three house patients, each man with a nose unsightly and misshapen from violent encounters. The time that had elapsed since the accidents ranged from seven to twenty-three years. The men were anxious to have their noses straightened, as they said their personal appearance was against them in getting work. They had been refused operations at two hospitals, which was perhaps natural as they were very unpromising looking candidates. The fact that they were so earnest, however, induced me to undertake the work.

I then devised the following operation and applied it to the three men. Five or six weeks afterwards I presented the three patients before the College of Physicians, with a description of the operation. My colleagues were then very generous in their approval of the results and originality of the work: now, after about thirty additional cases, I will describe the operation in detail.

The operation is indicated in a case in which the external nose departs markedly from the straight line, or is depressed on one or both sides, especially if in addition the breathing is obstructed by these external deformities, which are sure to produce a deflected septum or to force the turbinates to hypertrophy from their vicious position. The essential feature of the operation is to cut through the nasal process of the superior maxillary bone avoiding injury to the nasal duct. The steps of the operation are as follows.

The patient is admitted to the hospital the day before the operation; the urine is examined, the nasal passages thoroughly cleansed, the skin of the nasal region thoroughly scrubbed and left for the night with an antiseptic dressing over the nasal surface. In the morning the patient is etherized, the dressing removed, the skin washed with alcohol and an incision made with a narrow-bladed knife, directly over the nasal process of the superior maxillary bone, at the point where the elevation, which makes for the nasal prominence, begins. The incision is made parallel with the normal line of the nose, a length of about one fourth of a centimeter. Pressure is made at this point, after the incision, until the insertion of a beveled chisel, the width of whose blade is about the length of the incision. Then by a light blow with a mallet the chisel penetrates the nasal process at this point, great care being observed not to go beyond the bone. After the chisel is withdrawn, pressure is again instituted by an assistant, while the operator proceeds in like manner with the opposite side; then by means of a pair of long-handled, broad-bladed forceps, such as the Asch septal forceps, the operator enters the nasal passage with one blade, completing by fracture the mobility of the nasal process along its entire line, for the upper part of the nasal process can usually be made mobile at the suture along the lacrymal bone; also at the suture of the nasal bone

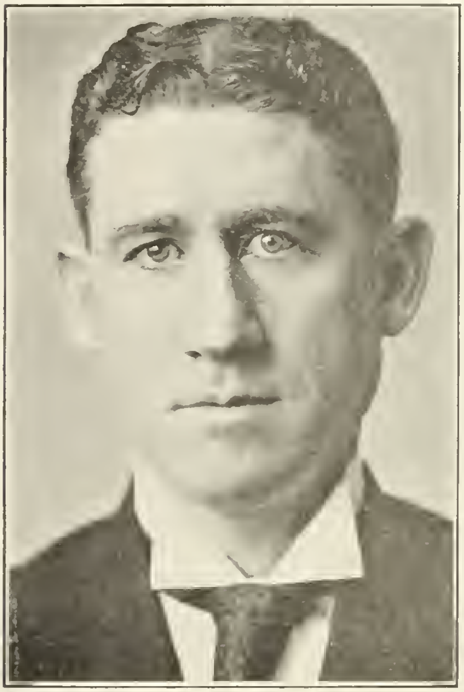


FIG. 5. Before operation.

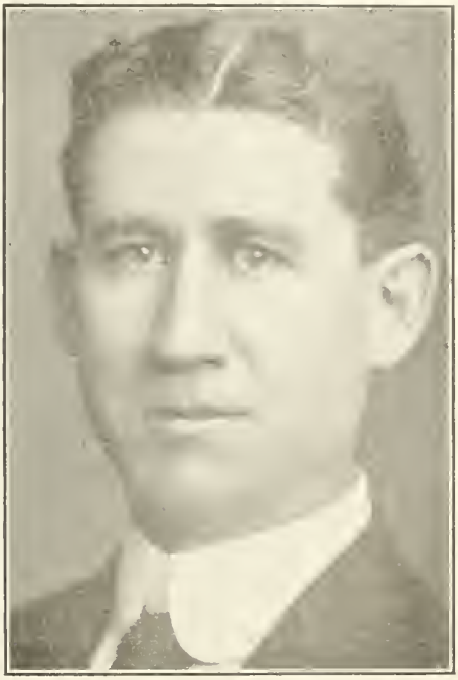


FIG. 6. After operation.

on the corresponding side. The operator proceeds in like manner with the opposite side. If there is a nasal obstruction through the malposition of the septum, the septum is seized with the broad blade of the same forceps and forced into a correct position, by loosening its articulations but without separating the latter. In many cases the septum takes a correct position as if released from the compression of the superimposed nasal bones and nasal process of the superior maxillary, but it is chiefly the latter which I consider the key to the situation.

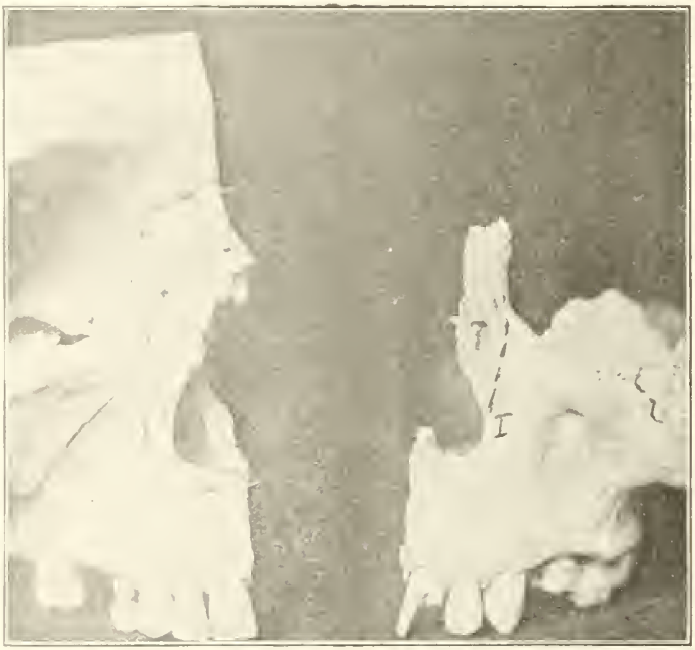


Fig. 7. Relative position of incision for correction of nasal deformities by Marshall's operation. *N*, nasal bone; *P*, nasal process of the superior maxillary; *I*, line of incision and fracture.

The nose is not likely yet to be in a straight line, the defect lying at the suture between the frontal and upper extremities of the two nasal bones and both processes of the superior maxillary. This faulty angle can be straightened by a sharp stroke with the mallet, at this point guarded by a rubber-covered lead plate, the force being directed downward from the frontal bone, but toward the obtuse angle (that is, against the deflected side). If pressure has been kept on the point of incision for a few minutes, there should be no extravasation of blood, and the wound will heal by first intention. It is my custom to keep these lines of incision covered by a bit of iodoformed gauze and collodion. In some cases I insert nasal splints for twenty-four hours or more, to insure continuance of the correct position of the septum. The lower part of the external nose is also incased in a collodion dressing. Before the final dressing is applied, the nose should be absolutely straight without being held in position. The following day the patient is instructed to keep a moderate pressure upon the originally deflected side as there is a tendency of the old position to be resumed. I have no doubt that you would suggest that the pressure be made by artificial means, arranging a cage with thumb screws. This I advise against because it is uncomfortable for the patient, and I believe that all such apparatus will unavoidably, in some manner, get out of place and result in faulty pressure. This attention on the part of the patient should be continued for several days.

Unless constant pressure be kept at the point of incision for a few minutes, extravasation of blood is likely to cause a discoloration of the skin, which may persist for a week or ten days. This occurred in several of my cases. Infection appeared in two of my cases; it was due in one to the chisel passing beyond the nasal process, into the nasal passage, thus making a double compound fracture. The infection delayed the healing for about two weeks. In only one case did the lacrymal duct give trouble, and that was in the other case of infection. It continued, however, only during the few days of infection.

Explain to the patient the reason for applying the pressure after the second day, to insure the knitting of the bone in its new position. I believe the only unsatisfactory results have occurred from neglect of coöperation.

This operation does not restore bones that are lost but it has the following points to recommend it: (1) It radically and simply corrects the position of the misplaced bones, relieving the disfigurement and the mental depression and social disadvantage consequent upon it. (2) It frees the nasal passage by straightening a buckled septum and by preserving the entire strength of the septal support. (3) It gives in every case better nasal breathing, and it affords ample room later for further operation if septal spurs or angular thickening be present.

DISCUSSION.

Dr. Robert F. Ridpath, Philadelphia: We have all been interested in the description of this operation which to me, is entirely new. I think that we all feel that we have cases in which it is decidedly applicable. I know, also, that I voice the sentiment of some in saying that in the next case of the kind we will let Dr. Marshall operate to produce the cosmetic effect. There are so many deformities of the nose that are being corrected by the various new operations that a symposium on this subject, I think, would be in order at some future meeting.

We are all familiar with the various kinds of perforations of the septum. They come from several causes, specific, traumatic and otherwise, and we are getting more of them every day since we have been trying to do the so-called submucous resection. We make the incision through the mucous membrane, and start elevating. The first thing we know, our elevator slips into the other nostril or makes a decided tear in the mucous membrane of the side we are operating on, and we have a perforation. After the elevation on the one side and on the other, the taking out of the cartilage is the next step. It is considered by some authors that a perforation of the septum does not amount to much. This may be true; but, from my short experience, I think that a perforation of the septum is a decidedly bad thing. A small perforation gives shelving for crusts to form and a large one has a tendency to become larger and larger. Finally, in some cases we have the falling of the point of the nose, and a deformity results.

Luckily I am in the outpatient department of a hospital in Philadelphia, where we have many cases of nose deformity and various nose complications.

A patient with perforation came to me, a short time ago, with a decided deformity. The perforation was quite large, and, not knowing of any operation, I devised this one: I did a submucous resection, taking a large piece of cartilage from one patient, and then transplanted it into the patient with the deformity. Before doing this, however, I resected the tip of the inferior turbinate, dissected the mucous membrane from the bone, and stitched it to the cartilage, thereby giving it some vascular structure, in the hope of having permanent union of the cartilage transplanted with the other portion of cartilage and mucous membrane already there. The size of the cartilage transplanted was determined by means of an ordinary pair of mechanics' callipers. I hope to have a good result, and I have unquestionably helped correct the deformity. The man now has a really good-looking nose, with no sinking in at the point; whereas, before it was decidedly otherwise.

Dr. J. J. Sullivan, Jr., Scranton: Many of us here are doing some deformity work, and appreciate the good results obtained by Dr. Marshall. I have seen some of the work of others, but I think that his is worthy of great praise. I have been doing the operation submucously, making my incision inside the bones, removing the hump and thus correcting the deformity; but I have not been getting the results that Dr. Marshall gets in lateral deformities, although I have obtained excellent results in hump work.

I think Dr. Ridpath has laid too much stress on the importance of perforation of the septum. I do not think that perforation causes the least bit of trouble; one need not go about repairing secondary perforations. Dr. Ridpath will get a good result in his case, so far as putting back the cartilage is concerned, as did Goldstein, some years ago. Every time, after I do a submucous resection, the cartilage is put aside in sterile gauze. If I do tear the septum, I replace the cartilage, and know that it will grow again without any addition of mucous membrane from the inferior turbinate bone to help cover it. I am not an advocate of perforations and I dislike to have them happen in my cases, but they will take place.

Dr. Howard F. Pyfer, Norristown: I can not see why a perforation of the septum should cause a sinking of the nose. I think that the doctor is in error because the septum does not support the nose, although the bridge does. You can have a large perforation without any sinking. I can not understand what the operation was done for, except for a perforation. I think it ought not to go on record that perforations of the septum will cause sinking of the nose.

As for Dr. Marshall's paper, he has shown pictures with the bone curved; but if the cartilage is curved, will the cartilage straighten out after he has reduced the bone? If not, what can be done with this deflected cartilage?

Dr. G. R. S. Corson, Pottsville: Regarding the question of treatment of deformities in the way of prophylaxis, I believe that we should impress more strongly the fact that the general practitioner ought to take more pains in the first treatment of a nasal injury. An injury to the nose may not cause external deformity, but, in his opinion, the respiration may be blocked by the swelling. We often see such cases after it is too late to correct the primary injury. The point that I want to make is that we ought to use every means in our power to bring this matter before the general practitioners, in order to induce them to give attention and be sure that the nasal parts are all in proper position at the time of the primary injury.

Dr. John B. Corser, Scranton: I have performed an operation similar to Dr. Marshall's and the greatest aid in doing it was introducing the blunt dissector high up into the nasal fissure, as far back as the frontonasal suture, then drawing it downward and firmly forward, with the end of the instrument in the upper angle of the nasal fissure. The external surfaces of the nasal bones are moulded on the introduced instrument. The other naris is then treated in the same way. Not only is this of assistance when doing Dr. Marshall's operation but it is very effective in recent cases of fracture with deformity; for, not only is the nose brought to the midline of the face but depressed fractures can be elevated. I do not use intranasal splints in the after-treatment.

Dr. Wendell Reber, Philadelphia: Is that lifting done submucously?

Dr. Corser: Not at all; right in the nasal fissure.

Dr. Ross Hall Skillern, Philadelphia: Both the nasal bones are supported by the ascending process of the superior maxillary, as well as the articulation, superiorly, at the frontal. To have a sinking of the nose in this part, therefore, is impossible, unless there is some break in the continuity of the bone; but from that point down to the tip of the nose, a perforation may readily shrink and cause flattening of the tip.

Dr. Marshall, closing: Dr. Ridpath introduces an interesting phase of nasal work, but, I think, not quite in the line of this paper. It might apply in the removal of nasal obstruction, where this operation which I have just described fails to do it completely. The point made by Dr. Ridpath, however, is very interesting.

Dr. Pyfer asks what we shall do with the deflected cartilage. It is surprising to see what a large deflection in the cartilage will be given by a little deflection in the bony parts, because the cartilage is at the end of the line; see first that the bony parts are free from any deflection. It then may be necessary to attack the cartilage. An operation which I have described at the college meets this condition fairly well; namely, from the convex side of the cartilage where deflected, a wedge shaped piece is cut out so when the sides are drawn together the parts are in a straight line. These parts are held in position by one or more spans of silkworm gut, whose ends are passed through the cartilage on either side of the incision, the ends of which are held and made fast by small plates and shot on the originally concave side of the cartilage. These spans so fastened are made so short that they over correct the original deflection. This may remain in place until the healing is completed, if the plates are made of celluloid.

Dr. Corser spoke of the use of the forceps high up. These are absolutely necessary in order to free the articulation at the frontal nasal process. This articulation needs to be free and if the forceps are not sufficient it can be accomplished by the use of the mallet as I described in my paper.

INTUBATION.

BY ROYAL W. BEMIS, M.D.,
Philadelphia.

(Read by title in the Section on Eye, Ear, Nose and Throat Diseases of the Medical Society of the State of Pennsylvania, Scranton Session, September 26, 1912.)

Previous to 1880 if a person was unfortunate enough to contract diphtheria of the larynx, or membranous croup as it was called, he was given mercurials to soften the false membrane, inhalations to aid in the softening process, emetics to dislodge the membrane and purgatives for other reasons. If these failed to give relief then the attending physician urged, often in a half hearted way, the performance of tracheotomy as a last resort, and so often it proved fatal. The mortality in this disease was often as high as ninety-three to ninety-five per cent. Every one was wishing for some other means to relieve these sufferers and to reduce the awful death rate. In France, one physician tried putting a straight tube into the larynx but had no way of keeping it there so his efforts amounted to naught. It remained for Dr. Joseph O'Dwyer of New York City to invent and to perfect the set of instruments and the operation which has done so much to reduce the death rate and relieve the sufferings of this class of patients.

I feel that the medical profession owes to the late Dr. Joseph O'Dwyer a debt of gratitude that it can not repay and that the profession and humanity in general should unite in honoring his memory. The operation is done not only in this country but in other countries as well, and many, many lives have been saved that would otherwise have been lost had he not persevered in his work and perfected the operation as well as the instruments. Another thing I want to note here is the fact that no one has made any real improvement in the set of instruments since Dr. O'Dwyer perfected them. There have been some modifications but, I fear, no real improvements. The set consists of seven tubes graduated in size from the year old to the ten- to twelve-year old size, a scale for measurement of the tubes, an obturator for each tube to be fitted into the tube to make it probe-pointed for introduction into the larynx, an introducer, an extractor and a mouth gag, the latter to prevent the patient from biting the operator during introduction or extraction of the tube.

The shape of the tube invented by Dr. O'Dwyer is what has made the operation so successful. You will notice that the tube is nearly straight in front but the back has quite a protection at the top which prevents it from slipping down into the larynx when the proper tube for a certain age is used. Turning the tube to the side you will see there is a central bulging, "the retaining swell," which comes well down below the vocal chords and prevents, to a great extent, the expulsion of the tube during coughing. The tubes are made of hard rubber with an elliptical opening throughout, lined with metal. The hard rubber tubes are much better than the metal ones because there is no collection of a limy deposit on these as there frequently was on the outside of the metal ones and the deposit often irritated the soft parts considerably. In the collar of each tube is a small hole to carry the thread which may be used to remove the tube quickly if it has been placed in the esophagus instead of the larynx. The obturators made in different sizes, one for each tube, are hinged in the center to facilitate removal and are either screwed to the introducing instrument or made part of it. The introducer is made for introducing the tube into the larynx and is fitted with two prongs which, when pressure is made on the trigger located on the handle, move forward and downward and release the tube from the obturator. The extractor consists of a handle, a shaft curved at the end to an angle of almost ninety degrees, terminating in a beak composed of two parts which separate on pressure of the lever. The beak is introduced into the tube, the jaws separated widely enough to hold the tube tightly, and thus it is extracted. There is a thumbscrew in the shaft which is designed to prevent too wide separation of the beak, and injury to the larynx if the beak is not introduced into the tube.

Indications for Intubation. When a patient is suffering from progressive asphyxia with diminishing voice, labored breathing, sinking in of the suprasternal, supraclavicular and substernal fossæ, the intercostal spaces and beginning cyanosis it is time to give him relief by intubation. It is not wise to wait until the patient is so exhausted that he has become unconscious or even partly so because there is danger then of so much congestion or edema that the lungs may not react. Great harm may result to the patient if intubation is put off too long.

Technic of Intubation. The patient must be held perfectly still for the operation to be done successfully and while an anesthetic would keep the patient quiet it is not necessary nor is it wise to resort to anesthesia. Probably the best way is to wrap the patient firmly in a sheet with both arms placed well down at his sides inside the sheet. If one is fortunate enough to have skilled assistants the wrapping is unnecessary for the one who holds the child can control him perfectly and the other assistant can control the head. One assistant should sit in a straight back chair and hold the child in his lap with the child's head resting well up on the assistant's left shoulder and grasp the child's wrists firmly through the sheet and the other assistant stands at the back and holds the mouth gag in the left side of the child's mouth while with the other hand he holds the other side of the child's head. The head should be held as nearly vertical as possible and as still as it is possible for it to be held. The operator sits in front of the child and, having selected the proper sized tube and threaded it, passes his left forefinger quickly over the child's tongue and with the tip of the finger engages the epiglottis and holds it firmly against the base of the tongue; he guides the point of the tube along the side of the forefinger till the point reaches the epiglottis, then slips the point in front of his finger, raises the handle of the introducing instrument and gently pushes the tube straight down into the larynx. Scarcely any force should be used, for if the tube fits too tightly there is danger of ulceration. The operation usually takes not longer than from three to ten seconds from the time the finger engages the epiglottis till the tube is in place and the introducer removed. If in doing the operation one is not successful at first he will do well to wait a few minutes and allow the patient to get some air before attempting to reintroduce the tube. The patient is already in a serious condition and so can not endure too prolonged attempts at intubation. If the tube has been placed in the larynx nicely and the obturator removed the child will cough violently and the cyanosis will quickly disappear with the reëstablishment of respiration. Sometimes the false membrane is pushed down ahead of the tube and acts as a valve letting the patient inhale but very effectually preventing exhalation. In that case the string being still attached to the tube it can be quickly removed and sometimes the membrane will be expectorated and relief afforded and reintubation not be necessary, but if the patient is still having difficulty to breathe the tube must be reintroduced. If he breathes well through the tube the left forefinger is again put over the collar of the tube and held there while the string is drawn out. If the child is very young and has no molar teeth the string can be fastened to the child's cheek and the hands muffled some way, with thick mittens or bandages and then when extubation is necessary it may be done by pulling the string.

If the child is so exhausted that he is completely relaxed the tube may be introduced without raising him from the pillows; in fact, some operators prefer to have the child laid flat upon a table thinking there is less danger to the child. I do not like this position as well.

TWO CASES OF NASOPHARYNGEAL POLYPUS IN YOUNG PERSONS MISTAKEN AND OPERATED ON FOR ADENOIDS.

BY WILLIAM REDFIELD BUTT, M.D.,
Philadelphia.

(Read before the Section on Otology and Laryngology of the Philadelphia College of Physicians, April 16, 1913.)

The following are two cases of tumors occupying the nasopharynx in young persons:—

Case 1. Boy of sixteen years had suffered from nasal obstruction, with enormous discharge of thin mucoid material, and severe frontal headaches, at times, for three years past. Mental condition had always been subnormal, and of excitable type. He had been advised to have his tonsils and adenoids removed. He underwent an operation for this without improvement. Later a polypus the size of a large oyster was removed from the right nostril, and smaller ones from the left, but without restoring nasal respiration. When he came under my observation, he had a deflected septum with polypus formation on the right side behind the deflection, which could not be reached until the septum was operated on. Nasopharyngeal examination could not easily be made. After resection of the deflected septum the growth which is illustrated (Figure 1) was pulled out through the nose, the rounded end being drawn with considerable effort from its position in the nasopharynx. The boy is now in Mont Alto Sanatorium with lung tuberculosis. Recent report (seven months after this operation) from Mont Alto states that there is a recurrence of the growth in the nose and nasopharynx of moderate size, and with the old symptoms of profuse rhinorrhea, some nasal stenosis; though headache is not so bad as before. The mental condition is unchanged.

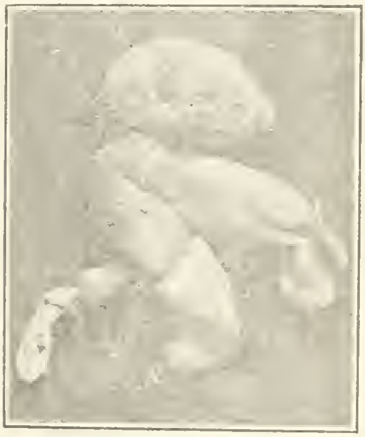


Figure 1.

This tumor at the time it was removed had the gross appearance of the ordinary nasal mucous polypus, being oyster-like in consistency and pink and semitranslucent; the ball-like end lodged in the nasopharynx being firmer than the rest.

Case 2. Boy of six and three quarters years. Medical history during childhood was negative, until he had measles at two years of age; since then he has had various nervous symptoms and choreic movements. He had some nasal trouble and mouth-breathing about this time, of mild character. At four years of age he had what was thought to be diphtheria, for which he was given antitoxin. Obstruction to respiration developed with cyanosis and retraction between the ribs during inspiratory efforts; he was sent to the Municipal Hospital where he was intubated, but the tube was soon removed and not replaced, and he was discharged in three days, but returned again with the same symptoms of obstruction to respiration. Following this attack of diphtheria (if it were that), almost complete nasal obstruction developed. This was worse during colds and mother then noticed for the first time that when he would sneeze "he could not get his breath at all for some time." (Possibly due to wedging of this tumor in the vault of the pharynx.)

When first seen by me he was six and three fourths years old, complexion was rather cyanotic, and there were marked nervous movements of the face and eye muscles. Nasal examination showed an object like an ordinary mucous polypus in the right nasal fossa. This was partially removed under nitrous oxid gas (as child could not be examined except under general anesthetics). Later he was given ether for a more complete operation, it being thought that most of the nasal obstruction was due to adenoids. At this operation, by digital examination, a round smooth mass was felt projecting out into the vault of the pharynx from the right choana which seemed to be the point from which it arose. This was removed through the pharynx by traction with small adenoid forceps, the nasal prolongations of the tumor coming out with it. (Specimen illustrated, Figure 2.) After removal of the tumor the vault of the pharynx felt clear; the normal adenoid mass had apparently been atrophied by pressure caused by the presence of the tumor there.

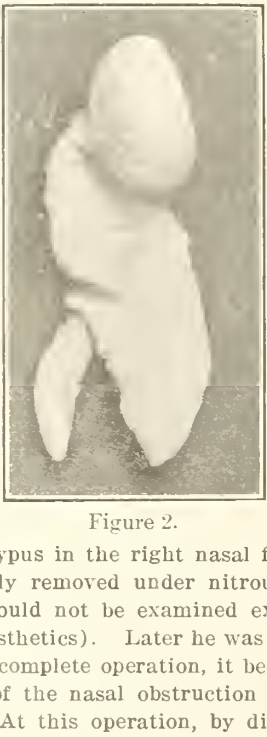


Figure 2.

At the present time (now eleven months since this operation), there is a recurrence of the growth in the nose, which has the appearance of the ordinary polypus; and by digital examination in the nasopharynx a small round mass is felt projecting backward from the right choana. Nervous symptoms and general health about as before operation, but nasal obstruction is only very moderate.

These two cases offer opportunity for some general considerations of benign tumors presenting in the nasopharynx in children.

Both of these tumors seemed to have had their origin in the nose and to be present in the pharynx merely by extension. The appearance of the tumor in the first case was like a typical mucous polypus, though the part in the pharynx was denser than that in the nose.

In the second case, that of the younger boy, the mass in the pharynx was quite firm and pale, while the nasal prolongations were translucent and soft, like ordinary polypus tissue. Altogether, however, the clinical appearance was that of polypus, and not of fibroma. No microscopical examination has been made.

The question of whether diphtheria was an etiological factor in Case 2 is of interest. Whether the exposure of the deeper parts of the mucous membrane or baring of bone when the diphtheritic false membrane is cast off could be a predisposing factor to polypus formation must be considered, as the symptoms in this case developed immediately after the attack of diphtheria. It has been shown that diphtheritic membranes are found in the antrum in children dying of diphtheria, and if polypus formation is supposed usually to arise in the sinuses, then diphtheria might be held as a possible etiology in this case.

Several accepted textbooks make no mention of the occurrence of nasal or nasopharyngeal polypus at as early an age as six and three fourths years, though there is in the literature recorded the case of nasal polypus removed from an infant seven weeks of age, with symptoms present at birth, pathological report of growth removed confirming the diagnosis.

One has a tendency to speak of polypi as "growths," but according to Jonathan Wright, in an article published some time ago, nasal polypi represent neither proliferation nor metamorphosis of existing cells, but merely an enlargement in volume caused by serous infiltration or edema. He condemns the use of the word "myxo fibromata" for nasal mucous polypi, as the word "myxo" would imply an embryonal tissue tumor, which, he says, the nasal polypus is not.

I have found two reports in the literature of nasopharyngeal polypi in young persons, which were associated with spasmodic nervous movements, especially of the face. In one of these cases the condition of petit mal disappeared after removal of the tumor.

In one case at least, nasopharyngeal polypus has been traced at operation to have its origin in the cavity of the antrum.

In addition to mucous polypi in the nasopharynx of young persons, cases are reported of tumors containing tonsil-like tissue springing from between the faucial tonsil and the eustachian tube, as are also cases in which the pharyngeal tonsil descended below the free margin of the soft palate; in this place it might be mistaken for a new growth.

The differentiation of mucous polypi occupying the nasopharyngeal space from fibromata is of great importance, owing to the grave character of operations on the latter, and the necessity of preparation for major surgical procedures in dealing with them. Fibroma of the nasopharynx arises more frequently in early life, usually has its origin by a broad pedicle or no pedicle at all from the base of the skull. Being at first smooth on the surface, it offers possibility of being confused with mucous polypus. However, it is usually hard and bleeds easily and freely on manipulation and later ulcerates containing spontaneous hemorrhages. Ballinger reports a case which he called soft fibroma, which during removal required ligation of the carotid to control hemorrhage.

True fibromata, though classed as benign tumors, are principally so only in that they do not produce metastasis; but they invade surrounding tissue spaces and accessory cavities by pushing the normal tissues out of their way, thus producing even external facial deformities, *e. g.*, the "frog face" deformity.

DISCUSSION.

Dr. D. Braden Kyle, Philadelphia: In the first place there is such a pathological condition in the nasal cavity as a myxomatous growth; many tumors, however, pronounced myxomatous are mixed tumors. Second, such growths do not always come from ethmoidal cells.

GAS BACILLUS INFECTION.

BY DONALD GUTHRIE, M.D.,
Sayre.

(Read before the meeting of the New York and New England Association of Railway Surgeons, New York, November 13, 1912.)

Gas bacillus infection is comparatively a rare disease, but is of interest to all surgeons who are engaged in treating cases of trauma because of its high mortality, its great destruction of tissue, its rapid onset, and its demand for early recognition and prompt measures of treatment.

It is a disease now acknowledged to be caused by the bacillus aërogenes capsulatus, a capsulated nonmotile anaërobic organism occurring in pairs or in chains and staining by Gram although there has been much confusion in the past as to whether the bacillus of malignant edema or bacillus aërogenes capsulatus was the cause.

Frazier, in Keen's Surgery, gives the following historical review of the subject:—

Maisonneuve in 1853 described a gaseous phlegmon under the name of gangrene foudrayante.

Pirogoff in 1864 called it primary mephitis gangrene, an acute gangrenous edema.

In 1871 Bottini proved the infective nature of the disease. In 1877 Pasteur described it as vibrion septique. Several years later Koch and Gaffky found the same organism in the human body and named it bacillus of malignant edema.

In 1891 Welch and Nuttal discovered a bacillus in the blood and tissue and called it bacillus aërogenes capsulatus.

Fraenkel in 1893 reported his bacillus phlegmones emphysematosae, which has been proven to be identical with the bacillus aërogenes capsulatus.

This organism is found in the soil, in the intestinal tract of man and animals, in dust from floors by Walker, in an old cesspool by Harris, and upon the skin by Welch.

As has been said, gas bacillus infection is a rare disease. It was found to occur in but 1 in 644 cases of 5802 cases treated in Bellevue Hospital from 1909 to 1911. Lathrop, of Hazleton, in an active accident service has seen but seven cases. Wainwright, of Scranton, in another surgical hospital has seen but five cases. Wilkins, four years superintendent of the Wilkes-Barre City Hospital, situated in the heart of the hard-coal regions, has never seen a case, although two of the cases reported here occurred in that hospital in 1905. No case ever developed in St. Mary's Hospital, at Rochester, Minn., in many thousand surgical cases, few of them traumatic, however.

The wounds which favor its production are wounds of force, compound fractures, crushing injuries, and gunshot wounds, although the disease has been known to have developed after clean surgical operations, in the administration of salt solution, subcutaneously, and obstetrical cases. Wounds in which the infection is driven into the tissue are more favorable to its production because of the anaërobic character of the bacillus.

Rare as the disease is, it is most important for consideration because, as has been said, of its high mortality and the necessity of its early recognition and thorough treatment. Welch estimates the mortality as 59 per cent.; Klotz, 50 per cent.; Stewart, 55 per cent. In 25 cases reported by Cramp of Bellevue, there was a mortality of 44 per cent.; 50 per cent. in the cases reported here.

The older methods of treatment were high amputation, done, however, late, after thorough treatment of the wound locally, but unfortunately in most cases after toxemia had developed. This toxemia is rapid and profound, and amputation done late will not relieve it and save the patient.

Frankel, Koenig and Cramp have employed a more conservative form of treatment with better results. It is the free use of an oxidizing solution, as potassium permanganate or hydrogen peroxid, and exposing the wound freely to the air without dressings whenever possible.

Cramp, in a recent and excellent paper[1] reports the results of twenty-five cases treated at Bellevue, and the latest literature reviewing 187 cases reported. He treated eight cases of undoubted gas bacillus infection (having found the organism in smears taken from the wound) by the conservative method—the prompt use of hydrogen peroxid, and discarding all dressings, with supportive measures—without a death. In the other seventeen cases, treated by amputation and incision, without the oxidizing solution, there were eleven deaths, or a mortality of 32.5 per cent. There were nine amputations with six recoveries, 66⅔ per cent. In his review of 187 cases he found a gross mortality of 48 per cent. There were fifty amputations, with eighteen deaths and thirty-two recoveries, or a mortality of 30 per cent. Conservative measures, incision and irrigation, were employed in thirty cases, with only three deaths, and these from complications, one from tetanus, one from secondary hemorrhage, and one from mixed infection twenty-five days after injury. Nine other cases of superficial infection about the trunk were treated conservatively, with recovery.

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[1] *Annals of Surgery*, Vol. LVI., Oct., 1912.

The types of wounds in the 187 cases were the following: 78 were compound fractures; 41 extensive lacerated wounds and crushes; 21 were postoperative; 15 gunshot wounds; 8 subcutaneous salt solution; 6 obstetrical operations; 6 non-traumatic; 3 animal bites; 2 gorings of animals; 5 unclassified.

Case 1. September 15, 1905. In another hospital, C. W., aged thirty-five, train rider, was injured by being thrown off freight train. Crushing injury of left leg and foot, from middle third down to foot. Tissue badly pulpified. He had lost much blood before being found, anl was in deep shock when admitted to the hospital at 11 P.M. It was thought best to treat shock, and wait until morning before doing amputation. Operation not performed until noon next day. During morning patient complained of great pain in leg, and had a temperature of 102.5°. At time of operation skin above crush was found to be edematous and of a greenish color; several small blebs had appeared. Amputation at upper third. In afternoon he complained of great pain; temperature, 102.5°; began vomiting; wound dressed in evening; flaps found to be badly swollen, edematous, and of a greenish-yellow color. There was a bloody discharge of foul odor. The sutures were cut and the flaps separated; gas bubbled freely from the wound. A diagnosis of gas bacillus infection was made, and the wound dressed with hot weak bichlorid solution during the night. In the morning man was very sick; temperature, 103°; pulse, 130; respirations, 30. Process had extended to knee, and there was much gas escaping from the wound. Amputation at lower third of thigh quickly done, but patient did not rally, and died that afternoon in deep toxemia. No attempt was made to isolate the bacillus.

Case 2. March 10, 1906. G. F., aged forty-two, fell off roof of barn he was repairing and sustained a compound fracture of both bones near wrist joint, with backward dislocation of hand. Was admitted to hospital at noon, four hours after injury; was etherized soon after admission, wound thoroughly cleansed, fracture and dislocation reduced. That evening complained of great pain in arm. Dressing was removed and wound inspected. His condition seemed satisfactory. Much pain during night; temperature 102°; pulse, 120. In the morning arm was greatly swollen, and pain continued. In afternoon tissues about wound were emphysematous and of a greenish-yellow color. The discharge was bloody and very foul. The wound was dressed frequently, and patient was kept under morphin. In morning process had extended to elbow; patient was very sick, in great pain; temperature, 103°; pulse, 134; respirations, 30. Amputation at lower third of arm. Death occurred that evening in deep toxemia.

Case 3. A. L., foreigner, member of section gang on railroad, aged thirty-three, was admitted to Packer Hospital, April 18, 1910. Compound fracture at lower third of right tibia; wound thoroughly cleansed and fracture reduced. Twenty-four hours after injury patient complained of great pain in leg; temperature, 101.5°. Wound was inspected at once; found to be swollen, with formation of few blebs, with slight crepitation. Dressings were removed, multiple incisions made through skin in neighborhood, and a continuous bichlorid 1-20,000 drip started, and wound was left exposed without covering. Trouble subsided within thirty-six hours, and final result of fracture was satisfactory. Gas bacillus found in smear taken from site of fracture. This case was undoubtedly the superficial form.

Case 4. C. W., aged seventeen, was admitted to Packer Hospital, March 19, 1911, at midnight. He was train riding, jumped and fell under the wheels; found some time after injury, and admitted to hospital in deep shock; had crushing injury of both legs, lower third, and feet. Treated during night for shock; operation at noon next day. Condition not good. Double amputation at junction of middle and upper third. At time of operation it was noticed that skin above injury had a greenish-yellow color and that a few blebs were present. Considering the possibility of gas bacillus infection, the flaps were held together with two sutures and a higher amputation not performed because of the bad condition of the patient.

He complained of great pain during the night, and in morning became very ill; temperature, 104°; pulse, 156; respirations, 28; very restless. Both stumps were found to be edematous, with gas bubbling out of wounds and foul red discharge. All dressings were removed and flaps were widely separated, multiple incisions made in skin about stumps, and a continuous bichlorid 1-20,000 drip started. The boy had stercoraceous vomiting, became wildly delirious, and was kept in bed with difficulty.

For the next eight days he was very ill; temperature running from 100° to 105°, controlled by sponging; pulse, 120 to 160. On the ninth day the temperature returned to normal and remained so. The gas bacillus was found in smears taken directly from line of incision. The skin sloughed away far above the ends of the bones, and the tissues became necrotic, so that when healthy granulations began to appear the ends of both bones of each leg protruded two inches or more beyond the flesh.

On May 19, 1911, two months after injury, he was etherized, the granulations and soft parts freed, and the bones cut off by a Gigli saw up as near the knee joint as possible. The new stumps were allowed to granulate, and at different times skin grafts were taken from the patient and his friends to cover the denuded area.

He was discharged from the hospital July 19, just four months from admission, stumps being almost healed over. Two months from this time they were entirely healed, and to-day he is working in a printer's shop, with two artificial limbs, and gets about very well. This is the only case of deep gas bacillus infection affecting more than one extremity that I can find in which the patient recovered.

In his review of the 187 cases Cramp brings out the following points: (1) The incubation period is very short. (2) We have the superficial form, easily combated, and the deep form, which requires prompt and energetic treatment. (3) More conservative methods should be employed in the treatment. (4) That oxygen should be used in some form, preferably hydrogen peroxid. (5) Extreme pain coming on during the first twenty-four hours following a severe injury, together with sudden rise in temperature, may be the first symptoms of gas bacillus infection. (6) Smears should be taken from the original wound, and not from a distant point. (7) Early recognition is the keynote on combating the condition.

In my small and very limited experience with the condition I can only agree with Cramp, and would urge that the chance of this infection, even though it is rare, be considered possible in all traumatic wounds; that, as a prophylactic measure, deep lacerated wounds, compound fractures and crushing injuries should be washed out well with an oxidizing solution, as potassium permanganate or hydrogen peroxid; that, in the event of pain developing later out of proportion to the extent of the injury, with fever and rapid pulse, the wound should be inspected at once; that smears be taken from the site of the wound and a search be made for the bacillus. If it be found, the conservative plan of treatment herein described should be tried before amputation is decided upon.

Since writing the above I have received the reports of three more cases of gas bacillus infection, through the kindness of another surgeon:—

J. M., aged twenty-three years, track laborer, was run over by train; thigh crushed. Attempt was made to save leg. On fourth day gangrene and emphysema. Amputation of thigh on fourth day with extensive slashes to groin. Hot iodin dressing. Patient died from sepsis four days after operation.

C. O. J., aged fifty-three years, flagman, was run over by train. Operation day after admission. Gritti amputation. Leg, gangrenous, but no sign of emphysema; twelve hours after operation, emphysema in thigh. Large incision and iodin dressings. Death from sepsis and general emphysema occurred twenty-four hours after amputation.

T. V., aged thirty-seven years, miner, was caught in fall of roof in mines and leg crushed. Attempt was made to save leg. Six days after injury gangrene evident, but no emphysema. Emphysema a few hours after amputation. Incision and hot dressing. Patient died two days after amputation.

Since reading the above paper, I have now in the hospital a case of gas bacillus infection, treated early by the open method. The patient is making a satisfactory recovery.

Mrs. S., age 38, admitted to the hospital, July 17, 1913, at noon. At 5 P.M. the night before, she fell off a load of hay and sustained a compound, comminuted fracture of both bones of the right leg, just above the ankle. A large piece of the tibia was broken off, and the ends of the bones were ground in the dirt of the road. On admission nineteen hours after injury patient was found to have a temperature of 102⅗°; pulse 114, respirations 24. The wound had a greenish discoloration about it, without bleb formation, and the tissues were infiltrated and swollen.

Patient was given nitrous oxid and oxygen anesthesia, and when the wound was separated, a thin, greenish colored, very foul liquid was discharged, without bubbles. The tissues were edematous, but there was no crepitation. From the history of the injury, and high fever developing so soon afterwards, the great pain complained of by the patient out of proportion to the extent of the injury, and from the very foul greenish discharge, the gas bacillus infection was thought to be probable.

The wound was opened up freely, cultures and smears taken from its site. The smears showed the bacillus aërogenes capsulatus, as did the cultures later on. The wound was washed out well with potassium permanganate, 1 to 10,000, and patient sent back to bed without dressings. The leg was placed in a fracture box, with the sides opened, and left uncovered, protected by mosquito netting. A continuous permanganate drip was started.

The improvement was rapid from the start, the temperature returning to normal within four days. Her condition is now good, every hope being entertained for a useful leg in the future.

See Program
Philadelphia Session
September 21-27,
in this issue.

BRONCHOSCOPIC REMOVAL OF A COLLAR BUTTON AFTER TWENTY-SIX YEARS' SOJOURN IN THE LUNG.

BY CHEVALIER JACKSON, M.D.,
Pittsburgh.

Bronchoscopic removals of foreign bodies are now so common that they scarcely merit publication, but the case herein reported presents unusual features.

Mrs. C. K., aged forty-eight years, was admitted to the Presbyterian Hospital with a history of having "swallowed" a pearl collar button twenty-six years previously. There was some cough and bloody expectoration at the time of the accident and for about a year subsequently. This was before the discoveries of bronchoscopy and Roentgenoscopy. No further pulmonary symptoms were noted for twenty-four years. During the twenty-fifth year there was an attack of "pneumonia" in treating which the attending physician (a very competent man) ridiculed the patient's idea that the button could still be in the lungs. In the early part of the twenty-sixth year, under the care of a third physician, a second attack of pneumonia occurred, followed by pain in the left side, bloody, foul expectoration, fever and emaciation. Again the patient's story of the collar button was ridiculed. Extremely feeble and emaciated, she fell into the hands of Dr. S. B. Pierce of Johnetta, who at once, on the physical signs, made a diagnosis of lung abscess and pyopneumothorax. Suspecting foreign body origin, he referred the case to me.

On admission to the Presbyterian Hospital, the woman's temperature was 102°, pulse 140, respirations 40. Sputum was profuse, thick, foul and of dark gray color. A radiograph (Figure 1) by Drs. Johnston and Grier showed a dense shadow over the left lung, which they believed to be pus. Dr. John W. Boyce corroborated Dr. Pierce's findings and urged immediate drainage of the pleura by rib resection and a wide opening. This was done by Dr. J. Hartley Anderson, evacuating over a quart of putrid pus. Drs. Johnston and Grier then made another anteroposterior radiograph (Figure 2) which showed that the pus was well drained, but did not show a foreign body. In further search they made a diagonal radiograph (Figure 3) which showed a collar button between the heart and the spine, in direct line with the

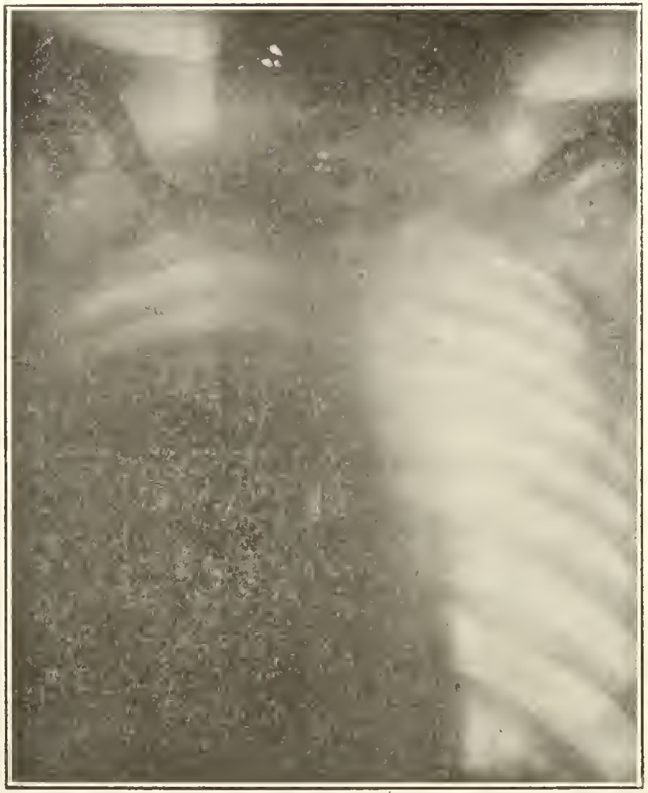


Fig. 1. Radiograph showing left pyopneumothorax which was due to the bursting into the pleura of a foreign body abscess of the lung in a woman of 48 years. Collar button was in the lung but did not show through pus shadow.

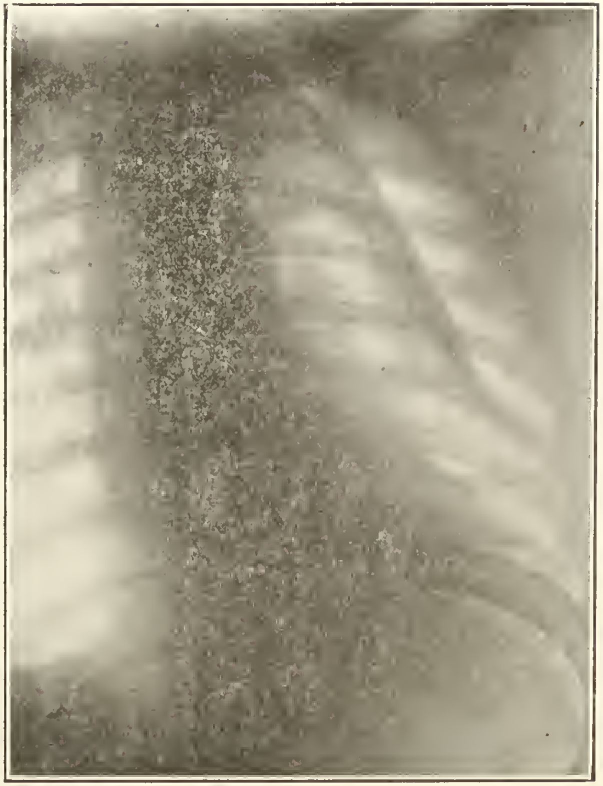


Fig. 2. After external drainage of the abscess by Dr. J. Hartley Anderson. Foreign body (collar button) present did not show. The dark line from the first rib downward and outward toward the drainage tube is the thickened visceral pleura seen on edge. The lung is collapsed as far as the pleural adhesions will permit.

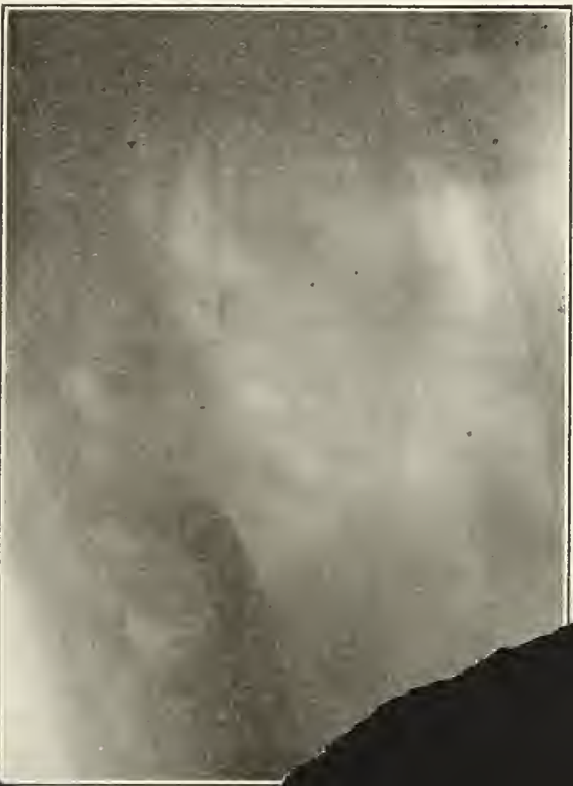
stem bronchus of the left side. Dr. Johnston stated that there was tissue overlying the foreign body and that in order to reach the foreign body it would be necessary to remove this tissue in a direct line with the axis of the stem bronchus. With the assistance of Drs. Patterson, McCready and McKee, without anesthesia, general or local, I passed a bronchoscope through the mouth and found the inferior lobe bronchus occluded just below the orifice of the upper lobe

readily removed through the mouth. The foul odor disappeared in about four weeks, cough and expectoration lessened, and both have now disappeared. The lung has filled with air and the woman is well.

The points of special interest are:—

1. The extremely long sojourn of the foreign body in the lung; the longest, I believe, yet recorded.

2. The freedom from symptoms after the



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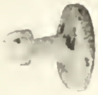


Fig. 4. Glass collar button removed from the lung by bronchoscopy bloodlessly through the mouth without any anesthesia, general or local. The collar button had been in the lung for twenty-six years.

tering lateral radiograph that could show this foreign body, and all ordinary work would have been negative. Good lateral radiographs are exceedingly difficult to make of adult subjects.

6. The necessity in such cases of draining pus collections in order to get a radiograph of a foreign body, which would not show through the purulent shadow.

7. The feasibility of endoscopically removing a tissue barrier in order to reach an abscess cavity in the lung, when guided by both an accurate radiographic localization and ocular evidence through the tube that the tissue to be removed is pathologic.

8. The advantage of working without an anesthetic. This patient was *in extremis* and an anesthetic was not to be thought of. Moreover, the peroral bronchoscopy was no more painful than the filling of a sensitive tooth cavity, for which no one requires an anesthetic. Furthermore, the air passages were full of pus mixed with blood from the granulations. The coughing of the unanesthetized patient greatly assisted in removing this in the way I have often elsewhere explained.

LUNGS

The lesson to be learned from the cases reported, especially Case 1, is that a patient in whom there are marked pulmonary symptoms and the absence of tubercle bacilli in the sputum is in all probability not tuberculous. In addition to studying the sputum for the presence of other bacteria, an *x*-ray examination is absolutely necessary in most instances, if one hopes to arrive at the true explanation of the trouble.

Case 1. W. P., male, aged thirty-four years, a draughtsman by occupation, was admitted to the service of Dr. C. J. Hatfield in the White Haven Sanatorium, July 24, 1912. His family history was good and he had always enjoyed excellent health. The history of the onset and subsequent course of his illness is taken from a letter recently received:—

"In the early part of October, 1911, I had an attack of bronchitis, from which I entirely recovered. On October 30, 1911, I had a tooth extracted under nitrous oxid anesthesia. When coming out of the influence of the anesthetic I thought someone was holding me under water. I awakened with a sharp pain just to the right of the center and back of the upper part of the breast bone. The tooth was extracted about 1 P.M. I coughed hard the remainder of the afternoon and evening, and towards evening developed some fever. During the night I slept very little. The following morning I consulted a physician because of pain; he thought it might be due to the anesthetic. Growing worse, I called the physician
that evening, and he made a diagnosis of
on the right side. From this time
ed. Later the left lung became
also had an attack of pleuri
I was in bed bet
at the end of
gh the

cough with a gradually increasing amount of sputum.

"I had considerable pain after eating, the pain being on the right side and quite low down. I noticed it only when I hiccoughed or belched."

Condition on admission to the White Haven Sanatorium: Duration of illness was ten months. Cough was most severe night and morning, with from ten to twelve ounces of yellow sputum daily. Night sweats were frequent. Weight was 165 pounds; highest weight 208 pounds, one year ago. Temperature was intermittent and ranged from 99° to 103° F.; pulse very rapid, 120 to 140.

Examination of lungs: Poor expansion over right side; pectoral muscles atrophied on both sides, but more marked on right. Percussion note was impaired at both apices; at right base note was dull. Tactile fremitus was absent at right base. There was bronchovesicular breathing at both apices; at right base, breath sounds were very distant. There were fine moist râles at left apex and all over right lung; in addition there was a friction rub at the right base.

Discussion of case: The suspicion that the patient might not have tuberculosis was aroused by the following facts: First, the character of the temperature accompanied by the sweating. Second, the history of negative sputum examinations before admission and five or six negative examinations after admission. Third, the preponderance of physical signs at the base rather than the apex of the lung. In tuberculosis it is the summit of the lung which is almost invariably farthest advanced in the disease. Fourth, a marked leukocytosis (39,000 and 30,000).

It seemed certain that he had empyema, probably interlobar. Accordingly, August 23, 1912, an exploratory needle was inserted in the eighth and ninth interspaces in the posterior axillary line, but with negative results. This procedure was repeated a week later in the sixth interspace in the midaxillary line, and again, a week later, in the fourth interspace in the midaxillary line, both times with negative results. In the meantime the patient was going from bad to worse, and the presence of pus within the chest was almost certain in spite of the negative punctures. Finally, September 17, 1912, two months after admission, an incision was made by Dr. Alexander Armstrong in the third interspace, just anterior to the midclavicular line and pus was found.

Dating from the evacuation of the pus the patient rapidly improved; his fever subsided, the cough and expectoration diminished and he gained rapidly in weight. Three months later the cause of his trouble was revealed, and the explanation of the phenomena attending his illness was readily forthcoming.

On December 19, 1912, he had an attack of coughing and coughed up a wisdom tooth, the one the dentist had extracted. The patient then recalled his experience at the dentist's. Up to this time he had made no mention of even having had a tooth extracted. The tooth evidently had entered the right bronchus and set up a severe inflammatory reaction in the surrounding pulmonary tissue. Later an abscess had formed about it and this in turn had ruptured into the pleura where it became walled off and encysted. Following the expulsion of the tooth, the discharge from the external wound soon ceased.

July 19, 1913, the patient reports: "At pressent I am feeling fine, have no cough and my pulse is running between 74 and 80. I believe there is no shrinking of the right chest."

Case 2. P. P., male, aged seventeen years, was seen first, October, 1910. There was no history of tuberculosis in the family, and no known exposure to the disease. The boy had been delicate since childhood, being subject to attacks of gastroenteritis. While at a boarding school he was taken ill with what was at first believed to be pneumonia, although the evidence was not conclusive. This attack ran an irregular course and was unduly prolonged. Some weeks later the sputum was blood-tinged on a few occasions, and tubercle bacilli were said to have been present. When I saw the patient he had had cough and expectoration for about five weeks. He had also lost weight and had a slight rise in temperature each afternoon.

Examination: Examination showed deficient expansion on the right side and an impaired percussion note over the upper half of the lung, the note becoming absolutely dull as the base of the right lung was approached. The breath sounds were markedly bronchovesicular above, but almost disappeared over the dull area at the base. The voice sounds were exaggerated above and absent at the base. Although the physical signs were most marked at the base, the diagnosis of tuberculosis seemed clearly justified from the symptoms, and especially because of the positive sputum report. The preponderance of the physical signs at the base seemed explainable on the ground that the trouble had started as a pleural effusion, which had been mistaken for pneumonia and that the lung had failed to reëxpand.

The boy was sent to a sanatorium, where he remained for about six months, and made what seemed to be a perfect recovery. The symptoms gradually disappeared and the signs in the lungs became less marked, those at the base still being the most evident. Although two examinations of the sputum proved to be negative for tubercle bacilli, while he was under observation, no importance was attached to the fact owing to his improvement.

The patient was seen on two occasions during the year following his discharge from the sanatorium, both times for trouble with his stomach. There had been no recurrence of the pulmonary trouble.

In August, 1912, I learned that following a severe attack of seasickness he had been seized with a paroxysm of coughing and had coughed up a brass-headed tack. How or when the tack gained access to the lung is not known.

CHAIRMAN'S ADDRESS.

BY LUTHER B. KLINE, M.D.,
Catawissa.

(Read at the Seventh Annual Conference of the Secretaries of the Component County Societies of the Medical Society of the State of Pennsylvania, Scranton, September 24, 1912.)

Another year has quickly passed since this association of the secretaries of the component county medical societies assembled in Harrisburg. That occasion was one of enjoyment, profit, inspiration and enthusiasm. It was a representative body of medical organizations of this commonwealth, including a good percentage of the most active, aggressive, earnest and practical members and leaders in the county organizations. At this session we had present thirty-four secretaries, the membership of the conference being considerably augmented by assistant secretaries, editors, reporters, trustees and visitors.

Here let me present a note of sadness: in that meeting there was no more cheerful, conscientious, successful and vivacious member than Dr John Boyce Donaldson. No one, probably, entertained the thought that he would never meet us in another conference, yet in a few short months he ceased to work and to live. He will be greatly missed in all the medical associations with which he was identified; in none more so than in the annual meetings of the secretaries, and the Medical Society of the State of Pennsylvania. To know him and his many amiable qualities of head and heart was to respect and love him.

I wish most heartily to congratulate you on having so large a representation in attendance at this seventh annual Conference of the Secretaries. I cordially greet you, feeling assured that you are here not simply that you may enjoy the meeting but anxious to render your share toward making it an occasion of profit and interest.

The objects of these conferences are manifold and varied, all, however, tending toward one goal, *viz.*, that of elevating the standard of our society, advancing its efficiency and increasing the membership.

The office of secretary of the county society holds the key of success or failure: it is either a source of life, activity and progress, or of inertness, failure and decay. A live secretary generally means a live society; if he is alert, prompt and earnest in the performance of all his duties, the membership will largely respond to his efforts. On the other hand, if he is indifferent, negligent and careless about the program, occasionally fails to notify the members of the time and place of meeting, the standing of the society will soon be on the decline, even though a fair proportion of the members may be interested and active workers.

The primary object then, I consider, in these annual conferences is to bring before us the practical and successful methods adopted by different secretaries, that all may become familiar with them and make such use of the knowledge gained as may seem to be suitable to the particular society. I do not believe that any local organization can successfully adopt the program or methods of another in detail, but each secretary will receive some suggestions or ideas that he may use with beneficial results.

In looking over the list of members of the House of Delegates, for the present session, I find that there are fourteen county societies that either failed to elect delegates or alternates, or neglected to report the same to the state secretary. This furnishes some reasons for thinking that the officers may be at fault in this matter. I would suggest that each secretary may prevent failures along this line by calling attention to the time fixed by our ordinances for the election of delegates.

I wish also, to direct attention to the relation of the secretaries to the standing committees appointed by the president of the state society. When receiving communications from the chairmen of these committees, requesting the coöperation of the society or information from the secretary, along the line of their special work, it is naturally the duty of the officer to grant the courtesy of a reply.

An indication of increased activity and progress in the component county societies may be seen in the fact that several additional monthly bulletins have made their appearance during the year, with only one discontinued. I believe the bulletin is a valuable aid in carrying on the work of the society and in increasing interest and good fellowship among the members (5764—net increase during year 250).

I wish to express my appreciation of the important and laborious work of Dr. Stevens in arranging for the banquet and his generous assistance in the building of the program; also to the members of the executive committee for their earnest coöperation, and to those who so kindly agreed to take a part on the program. I trust you will approve of our work in arranging for this conference, and that success may attend all our united efforts.

HOW CAN WE MAKE THE SOCIETY MEETINGS INTERESTING?

BY W. GILBERT TILLMAN, M. D.,
Easton.

(Read at the Seventh Annual Conference of the Secretaries of the Component County Societies of the Medical Society of the State of Pennsylvania, Scranton, September 24, 1912.)

Some few months ago the chairman, Dr. Kline, wrote the speaker asking suggestions for the secretaries' conference. A letter was returned suggesting a paper on "How to Make the County Society Meetings More Interesting," the same letter ending with the remark "if I can be of any further service will gladly help you out." I fear this last line was misinterpreted by Dr. Kline for the outcome of it is the saddling of this paper on the suggester's shoulders.

As secretary of the Medical Society of Northampton County I have tried many and various means to get the members to attend the county medical meetings. In previous years our meetings were held every two months but at the beginning of this year we changed to monthly meetings hoping thereby to gain a better attendance and consequently more interest in the society, but thus far this fact has not been proved.

Our society boasts a membership of 109 and out of this number 42 members never attended a single meeting last year. Meetings were held in different parts of the county so as to give all a chance to attend. The reasons given by the absentees are many. Some are too busy to attend; this I find prevails to a great extent among the younger men, while men of longer years of practice are able to arrange their work so they can attend. Another frequent excuse is that they forgot it. Others have some lodge function or a fireman's parade to attend on the day of the meeting or the day previous and are thereby debarred from attending. Others say there is nothing at the meeting that interests them and, further, the society is run by just a few and there is no chance for them.

Having gotten these excuses from the majority of the absentees I set about it to see in what way I could remedy matters. When I took up the case of the young man who was too busy to attend I simply threw up my hands; the only remedy I could prescribe was to hire him an assistant and, being financially unable to do that, have let the matter rest just where it was. Perhaps some member present can give me a few suggestions. In order to overcome the forgetting I mailed my notices so they would reach each member's desk two or three days before the meeting. I took particular care in writing the notices so as to make them attractive, generally ending with a few words in the lighter vein thereby hoping to clinch the date of the meeting. Later on I enclosed inserts with some interesting reading with every notice, these inserts touching on matters of interest in the county society which were of particular benefit to the members.

I have known members to take the entire day from their practice to attend some non-medical function but were unable to take a few hours to attend their county medical meeting. When it comes to the interest shown at the meetings this involves itself not only on the members present but the absentee as well. How can you expect a meeting to be interesting if you never attend and lend a hand, or if you do attend take no part in the meeting?

A great deal of interest is lost in the lack of promptness on the part of committees appointed. I have known committees appointed to report at the next meeting that did not report for three or four meetings. Now it may be some member, present at the time of the appointing of this committee, was particularly interested in the line of investigation this committee was to carry out, therefore he attends the next meeting to hear the results, and to his disappointment no member of the committee is present or else has no report to make; naturally this member loses interest.

Every county society must have a few members to take the lead; if not, the society becomes a failure. I would like to say to that disgruntled member who thinks a certain few run the society, Show some interest and you will be among that certain few.

Being a young man in the practice of medicine, I can easily see the obstacles the younger men in the county society have to surmount. I notice a hesitancy on the part of the young men to take an active part in the meetings for fear of criticism from the older men. This is a great mistake. The young men should take an active part in the meetings for on them the future success of the county society depends.

Up to this point I have adhered somewhat to the faults which arise from non-interested members; now let us come back to the original question and consider how, in spite of these faults, we can make our meetings interesting.

In the first place mark the date of your county society meeting on your desk pad, then arrange your work so you will be able to attend the meeting. It may be nothing that interests you will come before the society, but on the reverse you may become better acquainted with that brother practitioner whom you thought was a "cut throat" and your opinion of him be changed forever.

On several occasions, I have telephoned the night before the meeting to those who seldom attend and ask them to accompany me, going after them with my own conveyance. By this means I have been able to get some to attend, hoping thereby to get them into the rut and be present more regularly. This mode of procedure has worked out well in some cases.

Start the meeting on time and keep something interesting before the members so that the time will pass unnoticed.

The scientific part of the program should not consist of some cut and dried textbook subject but something original and up to date so that those members who do not attend will see their loss. On several occasions we have had clinics at the different hospitals in the county. When you do attend take an active part in whatever discussion may come up, your views, although at variance to those of some other member, may add a great deal to the final result; by so doing your opinion will soon be sought on all topics brought up for discussion and you will place yourself among those few who you said before run the whole meeting.

I think sometimes the scientific part of our program is pushed to extremes, members get tired hearing a rehash of medical subjects and therefore lose interest. Let me suggest if you will that we pay more attention to the good will and fairness among ourselves, assist each other in whatever way possible in order to bring about a more friendly feeling among the members of the profession, protect your brother practitioner from the rebukes of the laity, and, last but not least, protect yourself and ourselves from that vulture, the quack, who gets all the fees and you nothing.

I think it is high time that our county societies should wake up and introduce some legislation whereby we can get rid of the quack and collect an honest bill. If the county societies would pay more attention to problems of this kind I am sure attendance and interest in the meetings would be much increased. I have always considered it good form to hand the transactions of the meeting to the local press, mentioning the names of those present. The laity are getting to that stage when they are proud to boast of their doctor being a member of such and such a society and being at the meeting. It carries the impression that you are up to date.

Following the meeting we introduce a gastronomical feature; by this, I mean have dinner at some convenient place where the men can get together and as it were "eat, drink and be merry." In a crude way I have endeavored in the few foregoing remarks to introduce problems as I see them in my county. Any criticism or help I may receive from any present here to-night will be gratefully received.

DISCUSSION.

Dr. N. C. Mills, Big Run: For eleven months of each year that I have served as county secretary (we have no meeting in August), I have slept with this question. The ideal county organization would be the one that would allow its secretary to eliminate this "eternal question" from his tired brain. It is truly a consummation devoutly to be wished, and a fond dream of all of us, that will probably never be fully realized. And yet, I feel, sometimes, that we are progressing in this direction in Jefferson County.

We have tried various expedients to make our meetings interesting. At first we made out an annual program, assigning subjects in advance for the entire year. This had to be abandoned after a year's trial and proved a somewhat costly experiment. Interest was lost and attendance fell off because of the bad habit that the man on the program developed of getting busy elsewhere, when he should have been busy at the society meeting. The regular systematic course of study prescribed by the A. M. A. was then started and lasted for about a year, but met the same fate, from the same cause.

Of late we have adopted the plan of having some member give a short talk on some pertinent subject, or subjects, suggested at a previous meeting and we try to assign the "right topic to the right man" for preparation for the next meeting. If the talk provokes general discussion only, it has served its purpose well. We find that much more interest can be aroused by general discussion than in any other way, long and able textbook papers included. In short we encourage "The personal Experience Meeting" of Methodist fame.

We have also a volunteer class of members who volunteer to prepare and hold in readiness for the president's call, a talk or a short paper on a chosen subject, which they agree to give on any occasion after a certain date, when there may be a failure of the regular member on program to be present. In this manner we eliminate that "ancient and honorable bugbear" of every society, "the absent brother," and interest is kept alive.

I can recall occasions, in our regular meetings, when many of our members might have justly felt that they had been lured away from important duties in the hope of getting some light on some perplexing problem and gone home greatly disappointed, which surely would have been the case, had not some one of our volunteers responded when called upon, and truly saved the day for the president and secretary and all concerned.

In addition to our county organization in Jefferson and adjoining counties we have a local organization known as the Red Bank Physicians' Protective Association, with over 200 members. The general organization is made up of a large number of small locals. These small locals meet weekly or fortnightly. The forepart of the meeting is given over to the business of re-instating and listing delinquent debtors, in thrashing out professional squabbles and in many instances making the *amende honorable.* The after-part of the evening is given up to a substantial spread and sociability.

These local societies have been of inestimable benefit to us in our county organization, in cementing our town and country members together and most of all in clearing up many cases of "professional jealousy" and misunderstanding.

Secretaries, to get at the bottom of our question, we must consider the individual member. We must appeal to each and every man, in such a way as to arouse his individual interest. Know all your members personally, and get to know them as well as possible.

Learn a member's strong points and make him feel that the entire county organization depends on him, and him alone. You may, in a measure, be running your county society, but if you can make each and every member feel that you and all the rest of the members are depending on him, and make him feel his responsibility, then you will have accomplished a man's task, and a secretary's duty.

ABSTRACTS OF GENERAL DISCUSSION.

Dr. James Tyson, Philadelphia: I can speak feelingly of a secretary and his duties because in my life I have been so connected with medical matters that it seems to me I have always been a secretary and I can do no better than to emphasize what has been said as to the extreme power a secretary has for good in a society or in any situation in which he is engaged. He is far more important in a large number of instances than the president of the society. Considering the points that seem conducive to the interests of those you serve is a capital rule and I am quite sure that in a short time you will realize your great importance and usefulness in developing first in your own societies, county and state, and then in the national association.

Dr. William H. Cameron, Pittsburgh: The state society session has not been properly advertised by the bulletins or even the programs. I have received the program from our county society and only three or four lines are given it. One bulletin mentioned the state session and in the same paragraph mentioned the fact that there was going to be a great meeting at home, and while the writer said he thought the members should go they were invited to stay at home. We must keep up the organization first in our county society, then our state society and then the American Medical Association. We can not have a good national society unless we have good county and state societies. While the state session is an annual affair, we should give it more prominence in our bulletins.

Dr. M. W. Horner, Mt. Pleasant: I have enjoyed the papers this evening, and I find that the secretary is the moving man of the society. The society appoints him as the guiding star, as the leading man of the county society, and he should be true to that. As Dr. Donaldson said, the secretary is the man to lead the society.

In the Westmoreland County Society we have ten meetings during the year, and have three papers presented at each meeting. At present, three other physicians and myself are completing the program for 1913, and we know what we will have for each month. Those on the program have promised to read papers, and we will have the program published in the bulletin. It is by the publication of the bulletin that we have increased our membership. In the county we have about 115 members. There are about 265 practitioners in the county, not all of whom are legal practitioners. Copies of the bulletin are sent to all the legal practitioners, to a few of the quacks, to the majority of the secretaries of county societies and to a few of the delegates. This has been an incentive to men who are not members of our society. Those who have been so fortunate as to receive the bulletin will find two papers that are worth dollars. Other doctors are saying, "Well, Dr. So-and-So read a paper before the Westmoreland County Society, he is coming to the front; now I am going to join the society, I am going to say something, I am going to read a paper and I am going to have it published."

DR. J. B. MCMURRAY, Washington: We miss Dr. Donaldson and his enthusiasm very much. Perhaps you do not know that he personally sacrificed his life. We have quite a large society in Washington County and have heretofore met in the courthouse, in a room furnished by the County Commission, but by Dr. Donaldson's efforts we have secured a place of our own and a library has been started. We hope that we may be able to give a good account of ourselves for the stimulus given us by Dr. Donaldson.

DR. J. M. KEICHLINE, JR., Petersburg: We have been throwing boquets to-night at secretaries, but we must not forget that the president of the society is entitled to some. In one society of which I know, the president has worked with the secretary. He was the means of bringing four of the older practitioners into the society. In another society, the president seldom attends the meetings; he is not very friendly with the secretary and the society is not in such a good condition. We should work together; the president and secretary should be harmonious. Some societies have had long-term presidents. Some of us do not believe in third-term presidents, but I think we should consider the society and get good presidents as well as good secretaries—men who will go out and work like Dr. Donaldson did for the state society, for which we loved him so much.

A lazy reporter in a society can do more harm than the secretary can do good. He should report the proceedings in the JOURNAL and if he can gain admission to a weekly newspaper he can do good in that way. As for the treasurer, it is pleasant to have him boast that his society is the first to pay the assessment. I think the secretary should bring the treasurer, reporter and president into complete working harmony. Let them give a dinner to themselves once in a while. So let us think, not so much of the secretaries only, but of presidents, reporters and treasurers, and let us get good men in all these offices.

DR. THOMAS D. DAVIS, Pittsburgh: It so happens that I have had an unusual number of medical defense cases come under my care as councilor since the state society has instituted a defense fund. These cases seem to come as an epidemic. Several may occur in a year and then none in an interval of several years. From my observations, all but one have been solely and simply cases of blackmail in which ill advice has led the plaintiffs to think they can recover something very substantial. In the same mail that a notice is sent to the secretary, a notice should be sent to the councilor because a delay of twenty-four hours sometimes makes a great difference in the case, especially in regard to engaging a lawyer and beginning proceedings. The councilors are in communication with certain expert lawyers who will render their services for a more reasonable compensation than they will if employed by the defendants themselves. I will give you an illustration: In one of the cases, a gentleman employed a lawyer who simply entered an appearance and in that he told them the state society would take care of the case. He charged $100. Our lawyers that took hold of the case are as strong as any in Allegheny, and brought the case to a successful issue; the charge was $30. The defense fund is not large but large enough if economically handled and if councilors are willing to give their time.

Much rests on the secretary's having the interests of the society at heart. If you are doing that you will get the reward in your own heart by saying, "I have done the best I could." You can not expect every member of the society to have the same interest but do not let that dampen your enthusiasm. Every county society has a constitution and if that constitution is worth anything it is worth living up to in every particular. The president may not appreciate the importance of so doing but the secretaries are thoroughly instructed and know right and wrong. Do not allow anything to interfere with your doing things methodically and constitutionally. The time may come when some matter will be brought before your society that later will be referred to the Judicial Council. The Judicial Council's work is liable to be looked over by the courts. All the council has to do is to show that things have been done legally. They can not enter into the merits of the case.

Be methodical in keeping in contact with your councilor and in letting him know how you may communicate with each other. Three days after a conference was over, which I would gladly have attended, I received a postal card, inviting me to attend, directed to C. G. Davis, Medical Organizer, Pittsburgh, Pa. Not even Dr. That it finally drifted into my hands shows that I am somewhat well known. I presume that secretary had received Dr. Horner's bulletin which contains the names of the councilors. So be accurate, be careful and especially live up to the legal point of the affair. We are yet young. The larger this society grows the more influential it will become; the more it will be felt as a burden against those who do not like what we have done. Often those who take hold of the legal side have not the merits, but they have the legal side and what can you do? Therefore stick close, even in little matters. Study your constitution and do not violate it. Keep it up to date. Do not let it become obsolete. Then you will be getting all these good things of which I have heard to-night, which makes me feel that I have been honored by having been a secretary.

Dr. H. H. Whitcomb, Norristown: In regard to doing things legally, we were required to do some work a second time for improperly presenting our case in the expulsion of a member. Besides being accurate and following the constitution it is primarily essential that we should have a legal constitution. Last week I received a bulletin which contained some revisions of by-laws and constitution which I fear will not stand the test of the court, but are liable to bring the county society which printed the bulletin into disrepute as conspiring against the profession. It is very essential in drawing up a constitution and by-laws that nothing is done which is going to affect men in the profession who are not members of the society.

While I have always opposed the medical bulletins of the societies, Montgomery County Medical Society will have a bulletin after the first of the year. We hope to have it filled with material worthy of the spirit represented. In regard to membership, I have been endeavoring for many years to increase it. I have been secretary of the society for almost one fourth of the life of the society and in that time the membership has more than doubled, in fact tripled, but it seems to me that death and destruction keep us from ever reaching the one hundred mark. We have increased our dues from three to five dollars.

Dr. George W. Wagoner, Johnstown: I do not know of any organization to which I would devote more time, attention, thought and everything at my disposal than the organization of my medical brethren in my county, in the state and in the country because I look upon it as almost a religious duty for the physician to be associated in an organized profession. Indeed it has come to be a fact, and it is growing to be more and more a fact as time goes by, that a medical man loses caste unless he is associated with the medical profession of his county, state and nation. This is as it should be. It is a condition that we should all endeavor to bring about. We should impress on those entering the profession that it is their duty to be associated with their medical brethren and it has come to be believed more and more by the young men entering the profession at the present day that it is a duty. Formerly the membership in the society seemed to be entirely voluntary and indeed it seemed as if the members should be coaxed, induced to join. It was a social organization, an organization of congenial spirits, and for that reason the membership in many instances was quite limited. But this fact of the duty of individuals to be associated in medical organization has been growing and it has been largely due to the progress of medical education. Just at this point it seems to me that membership in the county societies should be made more easy of attainment if possible. I take it that any young man who passes through a college at the present time and who successfully passes the Board of Censors is a fit man for any medical organization, that he does not need to be held in probation for a year or more as the constitutions of some county societies require. I think the county societies should meet him with open arms and take him in at once because he is thus early in the great march of medical progress. So I would suggest that the door of the different societies be held open and that it be impressed on these men that it is their duty to be members and it should also be impressed on the public at large that a physician is never quite up to the mark unless he is a member of his local and state organization.

I believe in a certain amount of publicity at the present time because the profession as a rule has departed very largely from the feelings of jealousy that formerly troubled it. Their work is open and above board: the public health questions, hygiene and the care of school children have become so general that the public is interested in a very marked degree in certain phases of medical life and practice. It should be the object and the duty of the profession at large to encourage this knowledge among the laity and I see no objection to the proper report of all medical meetings and the proper publicity of the gentlemen in the profession who really do work that is of interest and of importance to the general public. In this way we increase our influence and we are enabled to do more and better and greater work in the interest of the general public than we have done in the past. I urge upon you, therefore, as the central idea to get all the young men into the society. Open the doors wide to them. Let them understand that they are welcome. Let them understand that it is their duty to become members of their organization and also let the public understand that it is the duty of our medical men to belong to their medical organization.

Dr. William L. Estes, South Bethlehem: I think the keynote has been struck when it was said that the county medical as no other society depends upon good team work. One man can do a great deal by being an active, persistent, energetic secretary, but with slothful other officers he is sadly handicapped. The secretaries should bear in mind that they have councilors who would esteem it a privilege in any exigency to come to the assistance of the secretary. The secretaries should consider likewise their privilege and indeed their duty to keep this functionary up to his duties in the way of overlooking the county societies. Of course a councilor who does not live in the county may not appreciate the difficulties the secretary may have in dealing with his members. So, too, the secretary must study his members and try to make his exercises such that will be attractive. I have always found that some sort of feed lends a tremendous attraction to the county meetings. Something like a lunch, supper or dinner preceding or following the meeting seems to add a great attraction. But after all, as Dr. Wagoner has said, it is the feeling of thorough interest and personal responsibility which ought to belong to every man of our society.

Dr. C. L. Stevens, Athens: I think this has been a good meeting and I hope all those who publish bulletins will go home and speak a good word for the secretaries' conference. We want to make those secretaries, who could have come and did not, wish they had been here. Let us truthfully speak of this, as we will and as we can, in the bulletins so they will come next year.

MINUTES OF THE CONFERENCE OF THE SECRETARIES OF THE COMPONENT COUNTY SOCIETIES OF THE MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.

The seventh annual meeting of the Conference of the Secretaries was held at Hotel Jermyn, Scranton, September 24, 1912, at 6 P.M., and was called to order by the chairman, Dr. Luther B. Kline of Catawissa, with the following secretaries and other county society officers present:—

Allegheny County, William H. Cameron; Bradford County, C. L. Stevens; Carbon County, J. B. Tweedle; Chester County, Joseph Scattergood; Clearfield County, G. E. Mauk; Columbia County, Luther B. Kline; Crawford County, C. C. Laffer; Erie County, J. M. Burt; Franklin County, J. J. Coffman; Huntingdon County, J. M. Keichline, Jr.; Jefferson County, N. C. Mills; Lackawanna County, F. Whitney Davis, W. Rowland Davies; Lancaster County, H. C. Kinzer; Lehigh County, J. Treichler Butz; Luzerne County, Delbert Barney; Lycoming County, C. E. Shaw; McKean County, James Johnston; Monroe County, E. G. Gulick; Northampton County, W. Gilbert Tillman, F. E. Ward; Northumberland County, Robert B. McCay; Schuylkill County, G. O. O. Santee; Susquehanna County, Edward R. Gardner; Washington County, J. B. McMurray; Wayne County, Frederick A. Lobb; Westmoreland County, M. W. Horner.

There were also present, by invitation, President James Tyson, Philadelphia; Treasurer G. W. Wagoner, Johnstown; Councilors W. L. Estes (Third District), G. W. Harman (Fourth District), W. A. Nason (Fifth District), F. L. VanSickle (Sixth District), T. D. Davis (Seventh District), D. H. Strickland (Eighth District), A. P. Hull (Ninth District).

The following program was interspersed with impromptu toasts and music by a male quartet.

The minutes of the last meeting, as printed in the Journal, May, 1912, page 650, were read by the secretary; also the report of the Committee on Constitution and By-Laws. On motion the following by-laws were adopted:—

ARTICLE I.

Title.

This association shall be known as the Conference of the Secretaries of the Component County Societies of the Medical Society of the State of Pennsylvania.

ARTICLE II.

Object.

The object of the Conference of the Secretaries shall be the advancement of the organization of the profession in the counties of the state with the purpose of securing the enrollment as active members in the respective county society of every eligible practicing physician;

of advancing the interest and efficiency of each county secretary and of the local county society as well as to further the welfare of the individual physician in his economic and professional work.

ARTICLE III.

Membership.

Sec. 1. The conference will consist of active and honorary members.

Sec. 2. All duly elected secretaries of component county societies; the president and the secretary of the Medical Society of the State of Pennsylvania are members by virtue of their office.

Sec. 3. Honorary members will be ex-secretaries of at least five years of service who apply for continued membership. Such honorary members are expected to pay the dinner charge unless personally invited by the state secretary or the presiding officer as a guest of the state society.

ARTICLE IV.

Officers.

The officers shall be a chairman, a vice chairman and a secretary-treasurer, elected at the annual meeting.

The chairman shall, shortly after the annual meeting, appoint a committee of five members, who, with the chairman and secretary shall constitute the executive committee, whose duty it shall be to make all arrangements for the next annual meeting.

The duty of the officers shall be as officers of similar associations.

ARTICLE V.

Meetings.

The annual meeting shall be held on one of the days during the sessions of the state medical society and at the same city or place of meeting.

Committee, John J. Coffman.
H. W. Gass.

Dr. C. L. Stevens took the chair while the chairman's address was read by Dr. Luther B. Kline.

Dr. Alexander R. Craig, secretary of the American Medical Association, addressed the society.

Dr. J. J. Coffman read a brief paper on the death of Dr. J. B. Donaldson It was moved and carried that the memoir be received and a copy presented for publication in the proceedings and a copy sent to the family.

Dr. W. Gilbert Tillman read a paper on "How Can We Make the County Society Meetings Interesting?" which was discussed by Dr. Norman C. Mills, Big Run.

Drs. J. J. Coffman and G. O. O. Santee were appointed a Committee on Nominations.

Dr. M. W. Horner, Mt. Pleasant, spoke on "How to Increase the Membership," which was discussed by Dr. J. M. Keichline, Jr.

Dr. C. L. Stevens, Athens, gave a talk on the "Medical Defense Fund" which was discussed by Drs. T. D. Davis, Pittsburgh; and H. H. Whitcomb, Norristown.

Dr. C. L. Stevens read a paper on the "Medical Benevolence Fund," prepared by Dr. W. S. Wray, Philadelphia, which was discussed by Dr. G. W. Wagoner, Johnstown.

On motion a vote of thanks was tendered the Medical Society of the State of Pennsylvania for its courtesy in giving this banquet to the secretaries and officers. A vote of thanks was also tendered Dr. Davies of the Lackawanna County Society.

On motion, the report of the Committee on Nominations, naming Dr. C. E. Shaw of Williamsport for chairman, and Dr. J. Treichler Butz of Allentown for secretary-treasurer, and suggesting Dr. Harry H. Whitcomb of Norristown for vice chairman, was adopted.

It was suggested by Dr. Kline that the Conference of Secretaries have its business meeting in the afternoon and the banquet at night, and that the incoming chairman appoint a committee of five to look after these matters. On motion it was left in the hands of the Executive Committee.

Adjourned at 9:25 P.M.

The Executive Committee appointed by Chairman C. E. Shaw of Williamsport are as follows: Drs. W. S. Wray, Philadelphia; H. P. Brunner, Reading; H. W. Gass, Sunbury; Joseph Scattergood, West Chester; C. F. McBurney, Altoona.

UNETHICAL ETHICS VERSUS ETHICAL QUACKERY.

BY JULIUS H. COMROE, A.M., M.D.,
Physician to York Hospital, York.

(Read before the York County Medical Society, July 3, 1913.)

We can not close our eyes to the deplorable fact that the general practitioner is losing much of his former inherited prestige, and is becoming a medium or agency through which the patient is simply directed to the proper "specialist" for diagnosis and treatment. Every statement to follow has been the result of most serious thought and careful observation, and is made with only one object in view; *viz.*, to attempt to restore to its former lofty plane the noble profession of medicine, and to regain, if possible, the confidence of the people, a confidence that is slowly but surely drifting into other rapidly multiplying channels. We will admit that to a certain degree the practitioner has both originated and aided the growth of this gigantic "specialist" industry by his inferior qualifications, and because he is not more versatile in his requirements in order to successfully cope with the evergrowing demands for new ideas in medicine and surgery. And who, furthermore, will dare to deny that legitimate and qualified specialists are not both a benefit and a necessity! But the term must be employed with the greatest caution. We are all only too familiar with the notorious newspaper "specialist" who most eloquently describes his genius and his miracles through the lay and secular press, and donates his guarantee (*sic*) to every member of his clientele. This particular breed of "specialist" may be either a legitimate (?) practitioner of medicine or a decided fraud. In either case he is unanimously adjudged a dangerous quack.

Now let us hastily turn our eyes to the so-called ethical practitioner, a man with a well-developed commercial instinct whose name may even be enrolled as a member of his county medical society, etc. This "ethical" physician follows the printed code of ethics to the letter, and therefore feels safe in employing a leukodescent lamp or a small electric battery in every disease to which human flesh is heir. He is permitted (?) to exhibit certain diagnostic instruments to his clientele, yea, even to his friends and their friends by invitation, with a detailed explanation of their value and absolute necessity, volunteering the information that they are the only ones of their kind in the community. These same "ethical" gentlemen are permitted (?) to relate to the laity, both directly and indirectly, their innumerable experiences and wonderful results that are really incomparable, having cured a case that even the renowned Professor Blank and his learned contemporaries had pronounced utterly hopeless. He is licensed to label himself a "stomach specialist" at one time, a "children's specialist" at another, a "nose and throat specialist," and so on *ad infinitum*, depending upon seasonal changes, all of which is in strict conformation with the written code of ethics. This so-called self-styled specialist is quite prevalent. It is such a doctor who may reply: "Doctor A was good in his time, but it is a real pity that he is getting old now"; "Doctor B should certainly be a good man after he has acquired about five or ten years' more experience"; or, "Is that so? I did not even know that Doctor C really treats such diseases." And still he is satisfied that he is faithful to the printed code of ethics. One well-known author recently said, "That we also have quacks in our ranks who are morally not a whit better than the out-and-out advertising quack is well known." We are simply introduced to ethical quackery on the one hand and gross unethical ethics on the other; it is a supreme effort to ignore absolutely ethics and moral principles pitted against a sagacity for avoiding the actual unwritten interpretation of the ethical code. It is astounding how successfully (?) such an ethical (?) physician can criticize his brother practitioner without apparently uttering even a single word of condemnation. "Such comments and insinuations tend to lower the esteem of the patient for the medical profession." I have often wondered whether or not these ethical (?) and supposedly silent critics never expected their base inuendos to reach the sources for which they were never intended; but then, it is difficult to perceive that such contracted intelligence exists.

Returning to the "ethical" quack, the country is seething in quackery, and the dispassionate observer views the narrowing field of the general practitioner with a disconsolate heart. The pursuit of gain is prosecuted with a dogged pertinacity and the spirit of the age is mercenary to the highest degree. The land is overrun with charlatans, and it is not a fanciful dream to say that they have multiplied after their kinds. Many people not only believe in quacks but really love them. And why should this condition of affairs exist? Without any exception there is certainly no profession in which so many temptations beset the path to swerve from the line of strict integrity and in which so many delicate and different questions of duty are commonly arising. There are pitfalls and mantraps at every step, and very often at the very outset of his career the practitioner needs prudence and self-denial, as well as the moral courage which belongs commonly to much riper years. His moral principle is the only safe guide, the only torch to light his way amidst darkness and possible failure, but it is very seldom lighted by a few widely scattered ones in our ranks. It has been correctly stated that "full many rogues have honest faces." Consider with these obstacles the great strides made in public hygiene and sanitation; the progressively increased volume of business done by the patent medicine trade; the hospital and charity extension schemes; the numerons lodges; the high cost of living to the poor and middle classes (and the consequent strenuous truth that physicians suffer thereby in more unpaid bills), and the wonder is that so many physicians continue their labors with honor, dignity, and a true regard for ethics in its broadest sense.

Instead of assisting in the eradication of these dangerous "ethical" quacks, the medical profession, both individually and collectively, has, in reality, aided their growth, both consciously and unconsciously. And how? In the first place, the confidence of the laity has been too often shattered by the lack of unanimity among the medical profession. This deplorable condition of affairs is quite prevalent and not infrequently leads to unjust criticisms relative to diagnoses, treatment and even personalities of brother practitioners, with the terminal result that the profession at large is ofttimes mistrusted. Furthermore, and it is painful to admit this fact, we are too often guilty of gross misrepresentation, by which the "ethical" quack is frequently benefited. I will rapidly pass over the cases of bronchitis, tonsillitis, intestinal autointoxications, etc., which are represented as pneumonias, diphtherias, typhoids, etc., and will only mention the monotonous frequency with which we hear such statements as: "The doctor said that had he operated one moment later, the patient would not have lived"; "This was the very worst case of appendicitis ever recorded"; "It was really fortunate the patient died, as we found certain conditions present which would have made life miserable, and even impossible." Has it not been the experience of all of us, in taking histories, to hear such almost meaningless statements as: "I had 'catarrh' in my younger days"; "I was 'threatened' with typhoid"; "Mother died of 'female' trouble"; "Father suffered from 'liver' trouble"; "The doctor said I had a 'touch' of pneumonia"; "I always had 'weak' kidneys"; and so on *ad infinitum.* Have not the army of quacks made use of these diagnostic (?) expressions with deadly effect? How often do you hear or read of these fakers recommending cures for hyperchlorhydria, interstitial nephritis, chlorosis, etc., as compared to guaranteed cures for their lay synonyms, dyspepsia, kidney disease, impure blood, etc.? At times, most of us have innocently helped to pave the way for these ingenious "ethical" quacks, and they have eagerly and profitably accepted the proffered aid.

In a very similar manner have the druggists entered the field of medicine and surgery with alarming success. Their major specialty is the practice of minor surgery and the treatment of venereal diseases; but at the same time, they do not hesitate to accept among their rapidly growing clientele individuals suffering from affections of the respiratory, gastrointestinal, nervous and circulatory systems. In some instances, these malpractitioners have gone so far as either to foster or to permit the use of their names in connection with most deceptive, untruthful and criminal advertisements in our daily newspapers, guaranteeing cures of almost every disease known to medical science. They have gone even farther, in giving public clinical demonstrations by unqualified individuals of the employment of certain specifics (*sic*) for the guaranteed cure of "catarrh," etc. But here, again, we have the unfortunate parallel in the physician who states: "Yes, the child simply requires a little worm medicine"; "A blood tonic is all you will require"; "Your entire trouble is catarrh (?) and you must simply use an atomizer"; "You have gonorrhea and these capsules will fix you up"; and, frequently, "These tablets will regulate your bowels and cure your indigestion." With such suggestive expressions of advice from the qualified (?) practitioner, it is not surprising that the druggist can so easily fill the demands of your former patients, and incidentally, his cash drawers.

Article VI., Section 3, of the revised Principles of Medical Ethics states in part that it is unprofessional to divide a fee for medical advice or surgical treatment, unless the patient or his next friend is fully informed as to the terms of the transaction. This apparently growing industry, more commonly known as "fee-splitting," fortunately does not flourish to any appreciable extent in the East, as has been recently pointed out by the investigating committee of the A. M. A. That it does exist in another disguise can not be denied. If it is unethical to accept the portion of a fee for referring a case to a specialist, it is equally as wrong, if not more so, for the specialist to deliberately and urgently refer patients to certain selected physicians as a reward for their allegiance and support. In the one case it is a cash consideration; in the other, it is the direct equivalent of cash. Such reference of patients ofttimes directly influences the individual in making his or her own choice, and thus really deprives the general practitioner of his moral right to impartial consideration. The specialist (?) who is guilty of such deliberate practices should no more expect or receive the support of the medical fraternity than the quack who actually pays dividends to his trade-booming agents. Thus we face another view of unethical ethics *versus* ethical quackery.

Without endeavoring to enumerate in detail the multitudinous sins that are being committed daily both within and without the limitations of the strictly honest practice of medicine, let us attempt to briefly summarize both the etiology and the treatment for these evils.

Primarily, we must have better doctors. The revelations made possible by the Flexner report recently, relative to the merits and demerits of the too-many existing medical schools, has already accomplished and portends to continue to accomplish much good. Instead of 161 medical schools in the United States, the number has been reduced within a comparatively short period to 110 both by amalgamation and elimination. More strict control over uniform entrance requirements as well as of the curriculum and the postgraduate practical education, can be productive of only that which is good.

The profession must become more united with a wholesome spirit of unanimity in moral, social and professional equality. Individuality must give way to unity; envy and jealousy should be succeeded by good fellowship; and approbation must supercede untoward criticism and discord. Physicians should use every honorable means to uphold the dignity and honor of their vocation, to exalt its standards and to extend its sphere of usefulness. For these reasons, it is absolutely essential that every legal practitioner "should associate himself with medical societies and contribute his time, energy and means in order that these societies may represent the ideals of the profession.'' It is our earnest opinion that lack of active affiliation with a county medical society is almost equivalent to nonmembership, inasmuch as passive membership, with some legitimate exceptions, may be simply sought and continued for the rewards and advantages which are associated with it. Dr. Hammond, in his very recent address as retiring president of the Philadelphia County Medical Society, concurred in this opinion when he said: ''A common interest should bind us all together, not as rivals but as partners in a useful cause. My observations, however, lead me to the belief that such is not strictly true at present. On the one hand there are members who, crushed in spirit, keenly struggling for bare subsistence, a mere pittance, as it were, fail to appreciate the importance of supporting either progress or reform; another group who are in a position of influence and affluence but not in sympathy with our cause can actually be heard to utter bitter and denunciatory words against it. As neither of these groups aids in advancing the dignity of our society to a position of reputation and authority, but rather attacks the high mark of progress which it is endeavoring to obtain, the by-laws should be so amended to expel from membership those whose interests have not been evidenced by attendance upon at least three scientific meetings each year.''

To regain the respect, dignity and confidence which our profession merits, it is incumbent upon each one of us to practice absolute honesty with one another, with our clientele and with the public at large. One's ability and tact may permit him to so interpret the ethical code as to exempt him from its written expressions, but such hair-splitting translations can never relieve a conscience of its actual unwritten teachings and meanings. Thus the ethical code does not specifically deny one the privilege of announcing that he is too busy to see any more patients for two weeks, nor does it specifically prevent him from performing major operations in his office without an anesthetic. Neither does this written code prohibit a practitioner from making most elaborate, even though unnecessary, examinations for most trifling conditions that are most easily and promptly diagnosed by sight alone. Still further, by the written interpretation of the ethical code, there are no limitations to the fanciful diagnoses made and the remarkable cures obtained by means most exclusive and magical. Nor is it specifically prohibited to throw the other doctor's medicine out of the window, with an expression of surprise and horror. ''Spring fashions in medical ethics advocate the following procedure: holding the bottle in the left hand, remove the cork with the right hand, bring the bottle near the nose and take three whiffs, two short and one long; draw the eye-brows together slightly and allow a troubled expression to flit across the countenance; replace the cork and set the bottle back of the clock where the children will not be likely to get hold of it.'' But Chapter II., Section 7, does state that physicians should expose without fear or favor corrupt and dishonest conduct of members of the profession. We should always remember that the principles of medical ethics, both the written, and particularly the unwritten, apply to each and every one of us and not only to the other fellow, as was pointed out by Arthur G. Bosler in the following verses:—

We heard of Hippocrates and his Oath,
Of medical ethics grand;
Our professor had spoken to us of both,
Told us just where to stand.

We left the school to enter the fold,
Expecting others to be kind;
We were willing to give, live and let live,
Alas! what did we find?

A slight from our very neighbor,
A knock from old Doc. Brown,
Jones carried a good-sized hammer,
Smith ready to run us down.

We wondered who e'er said ethics,
We pondered on what it meant;
Once in a while we met a fellow
Who really seemed decent.

But, oh! the rude awakening,
Our hero falls from grace,
As later on our selfsame prof
Comes out and swipes our case.

The theory is this, as I have learned,
Through experience ripe and mellow,
Ethics are virtues mighty fine,
That is—for the other fellow.

Closer relationship and greater cooperation between the pharmacist and the physician should be encouraged. "By legitimate patronage, physicians should recognize and promote the profession of pharmacy, but any pharmacist, unless he be qualified as a physician, who assumes to prescribe for the sick, should be denied such countenance and support."

Finally there must be more education and less worthless legislation to check and abolish the dangerous growth of real quackery. As Mr. Henry Watterson says, "When any humbug in the country thinks it has the world in a sling, public opinion just rears back on its hind legs and kicks it out." This mighty tool, public opinion, must be aroused. The various pamphlets on "Nostrums and Quackery," published by the A. M. A., should be circulated gratis to everybody in the United States that can read. They expose quackery as it has never and nowhere been exposed before. And quackery, ethical (*sic*) and unethical (?), needs to be exposed. There must be a consolidation of the profession into one strong and united body to destroy this most pernicious evil, and this can be accomplished only and most satisfactorily by an organized and continuous campaign of education, for these scavengers must be fought and annihilated with their own powerful weapons, *viz.*, lectures, literature and the press.

In conclusion, I quote the immortal Longfellow:—

Live I, so live I,
To my Lord heartily,
To my prince faithfully,
To my neighbor honestly,
Die I, so die I.

This, from some opium experiences of mine, I can believe; I have indeed, seen the same thing asserted twice in modern books, and accompanied by a remark which I am convinced is true, namely, that the dread book of account, which the Scriptures speak of, is, in fact, the mind itself of each individual. Of this, at least, I feel assured—that there is no such thing as forgetting possible to the mind; a thousand accidents may and will interpose a veil between our present consciousness and the secret inscriptions on the mind. Accidents of the same sort will also rend away this veil; but alike, whether veiled or unveiled, the inscription remains forever; just as the stars seem to withdraw before the common light of day, whereas, in fact, we all know that it is the light which is drawn over them, as a veil, and that they are waiting to be revealed, when the obscuring daylight shall have withdrawn.—THOMAS DE QUINCY.

OTOSCLEROSIS!

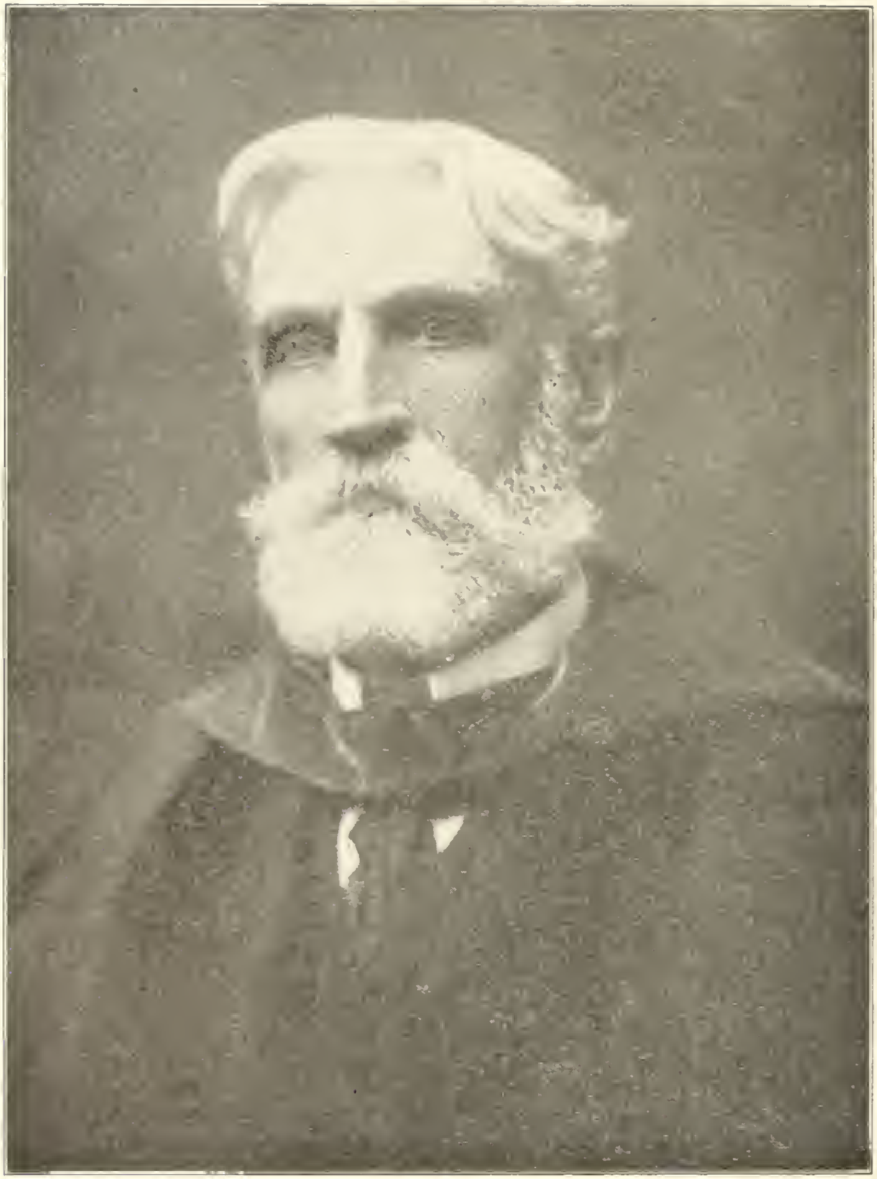
You may prate about your op'ra,
And sound the Muses' praise,
You may hail some great composer,
And sing his tuneful lays;
You may speak to me of Melba,
Whose voice is grand no doubt,
But oh, I'd like to hear the rain
A clatterin' down the spout!

You may tell me of Paderewski,
How very well he plays;
I would like to hear the crickets
As in my boyhood days.
I have read about one Plancon,
I s'pose that he can shout,
But oh, I'd like to hear the rain
A clatterin' down the spout!

You may rave about the children
Who Christmas carols chant,
You may tell of wondrous anthems,
Superb, I'll gladly grant.
You may chat of bluebirds' warbling,
When trees begin to sprout,
But oh, I'd like to hear the rain
A clatterin' down the spout!

—J. A. HAGEMANN.

CAT.



BENJAMIN LEE, M. D.,
Born September 26, 1833—Died July 11, 1913.

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ATHENS, AUGUST, 1913.

DR. BENJAMIN LEE.

Dr. Benjamin Lee, assistant to the commissioner of health of Pennsylvania, died July 11, at Point Pleasant, New Jersey.

He was born September 26, 1833, at Norwich, Conn., the son of Rt. Rev. Alfred Lee, Bishop of Delaware, and his wife, Julia (White) Lee, and was the great-grandson of Judge John Trumbull of Connecticut, author of "M'Fingal" and other political and patriotic poems. Dr. Lee prepared for college at the Academy of the Protestant Episcopal Church, Philadelphia, was graduated A.B. from the University of Pennsylvania in 1852, received the degree of A.M. in 1855 and Ph.D. in 1878, after attending courses of the Auxiliary Faculty of Medicine of that university in 1874-75 and 1878. He attended lectures at the Jefferson Medical College, Philadelphia, 1853-54 and at the New York Medical College, New York City, 1854-56, at the close of which he was graduated from the latter college.

Dr. Lee was a resident physician to the Colored Home Hospital, New York City, 1855-56; intern to Bellevue Hospital, 1856-57; walked the hospitals in Paris during the winter of 1857-58; took a practical course in obstetrics under Carl R. Braun, Vienna, in 1858; then returned to New

York City to enter private practice, and was attending physician for diseases of women, Demilt Dispensary, of New York City, in 1859-60.

Dr. Lee was an original member of the Twenty-second Regiment, New York National Guard; assistant surgeon in 1861; surgeon in 1862; in the service of the United States, June, July and August, 1862, and July, 1863, as surgeon to that regiment and acting brigade surgeon.

In 1865 he removed to Philadelphia. He joined the Medical Society of the State of Pennsylvania in 1867; was its treasurer and a member of the committee on publication from 1873 to 1887; and was second vice president in 1888. In 1892-93, he was professor of orthopedics in the Philadelphia Polyclinic and College for Graduates in Medicine.

In 1885, Dr. Lee was appointed a member of the newly created State Board of Health, of which he was elected secretary, a position which he continued to fill until that Board was superseded by the Department of Health, in 1905, when he became assistant to the commissioner. From 1893 to 1905 he was secretary of the State Quarantine Board. He supervised the sanitary and medical service in and about Johnstown after the great floods of 1889. In that year he was appointed United States commissioner for the condemnation of land for quarantine purposes at the mouth of Delaware Bay and in 1891, Governor Beaver appointed him a member of the Quarantine Commission to select a site for a new station on the Delaware River or Bay. In 1898-99 he was health officer of the City and Port of Philadelphia.

He has been a contributor to medical literature and a member of several medical and sanitary associations at home and abroad. He has been president of the American Academy of Medicine, the National Conference of State Boards of Health, the American Public Health Association, the American Orthopedic Association and the Aid Association of the Philadelphia County Medical Society. Dr. Lee was a "gentleman of the old school," and his courteous bearing, quiet enthusiasm and energetic efforts will long be remembered by his associates. S.

EMBLEM FOR IDENTIFICATION AT STATE SOCIETY SESSIONS.

The question of a suitable identification button or ribbon for use at the annual sessions of the society has always been a source of annoyance and expense. This year it is proposed to adopt a universal emblem that can be used from year to year, which, in the interim, may be worn by the members.

It is not proposed to discuss the advantage or the disadvantage of a visible means of identification for the members of a large society, but a small button has been designed after the pattern which received favorable comment last year. In order to satisfy the demand the button has been made up in various materials (See advertisement), and will be sold at a price only slightly in advance of cost. During the annual session a small inexpensive celluloid medallion will be attached to the button. This will serve to show the year, the city in which the session is held, and the section in which members desire to vote.

In other words the scheme is not only to cut down unnecessary yearly expense, but to provide a small, easily understood and dignified means of identification.

W. H. C.

AMERICAN ACADEMY OF MEDICINE AT MINNEAPOLIS.

The thirty-eighth annual session of the American Academy of Medicine was held at the Leamington Hotel, Minneapolis, beginning on Friday, June 13, and extending through Monday, June 16. The session was under the presidency of Dr. Ray Lyman Wilbur, the executive head of the

Medical Department of Leland Stanford University.

At the first meeting the committee, appointed a year ago to report upon teaching sanitary science in medical schools, made its report through the chairman, Dr. John L. Heffron, dean of the Medical School of Syracuse University, which proved to be a most valuable document. The committee had secured information from most of the colleges in class A, and was enabled thus to formulate not only what is being done, but what is desirable to be done for the undergraduate in training for preventive medicine. The report of the committee was highly commended. Dr. Percy W. Cobb of Cleveland, a representative of the Illuminating Engineering Society, presented a paper on "Illumination from the Standpoint of Medical Sociology," which received less discussion than it deserved, because of the arrival of the time of adjournment which was fixed early in order to enable the Committee on Arrangements to give the Fellows of the Academy and their guests an automobile ride around the city and through the parks.

On Friday evening the president delivered his annual address, selecting for his topic "The Physician of the Future." Dr. Wilbur, with prophetic vision, sees great fields of usefulness for the coming physician. The world has been nearly conquered, geographically and commercially; the larger forms of life are under man's control; there remain the conquest of sanitation and the control of microscopic life so disastrous in its effects upon mankind. The sanitary problems solved in the Canal Zone were greater achievements than the engineering conquest. In the future the physician has much to do for society and the state; and a certain proportion of our number must be engaged in public welfare. But the independence and individuality of the profession ought never to be sacrificed and the family physician should never become obsolete. Following the president's address Dr. William Healy of Chicago read a paper entitled "Present-Day Aims and Methods of Studying the Offender," which was the opening of the symposium of the year upon "The Physical Bases of Crime." a paper by Professor E. C. Elliott of the University of Wisconsin was also read at this meeting, entitled "The Schoolhouse as a Crime Contributor."

The Saturday meeting was given to the continuation of the reading of the papers in the symposium with the single exception of receiving the report of the Committee on Investigating the Teaching of Hygiene in the Public Schools. This report was final, although the committee was continued in order that it might report from time to time the progress made in this subject.

The Committee on Program had found the subject selected for discussion to be so extensive that it could not receive proper attention in the scheduled time, and had arranged to accept a large number of papers for the printed transactions, most of them to be read by title. The plan worked very well as the authors present were sufficient to fill up the time very comfortably and give a general view of the subject. The meeting elicited considerable interest, there being a large attendance during the entire session.

The usual social meeting was held on Saturday evening. Those present missed the services of the efficient choirmaster, Dr. Charles S. Sheldon, who was abroad, but enjoyed the presence of President Vincent of the University of Minnesota, who acted as toastmaster.

The Conference on Western Medicine in Eastern Lands, Sunday afternoon, brought together an audience of about 500, which showed that there is an increasing interest in this important field of medical service.

The Monday morning meeting was exclusively executive and had been arranged thus because the fullness of the scientific program precluded the opportunity of properly discussing certain business items that must needs be decided at this meeting. The innovation was so satisfactory, that it probably will be adopted as a regular fixture hereafter. The incorporation of the Academy during the year has made it necessary to adapt the by-laws to the new conditions and this resulted in a review of the Academy's history.

It was seen that the fight for the scientific preparation for the study of medicine had been won and that while all the educational problems had not yet been settled the Academy's standard had been generally accepted and, hereafter, every student graduating from a first class medical school will have the educational requirements of the Academy's standard, although not necessarily expressed in the terms of the Academy's statement. For during the years since its organization the educational institutions throughout the land have increased their requirements and the present high school course, plus two years of study, with the four years' medical course is fully equivalent to the requirements of 1876 which were the course in the preparatory school, the A. B. degree, and the M. D. degree after three years' study. Hence in this "Othello's occupation 's gone." At the same time the multitude and variety of questions on social medicine are so great as to cause the organization of a multitude of special societies, with no one society looking at the general field but only to its subdivisions. It was the universal sentiment that this should be the field of the Academy's effort hereafter. And that it would in no wise lower the standard of medical education if it seek to gather those who are interested in medico-social questions and thus become a central organization to which all such questions can be referred. That this might be accomplished the whole question was referred to a committee to report by letter to the Council during the year in order that the Council may be able to present a definite plan to the Academy at its next session.

Dr. John L. Heffron of Syracuse was elected president but will not be inducted into office until the opening of the next session, Dr. Wilbur remaining president until that time. The thirty-ninth session will be held at Atlantic City from Friday to Monday, immediately preceding the meeting of the American Medical Association. C. M.

INEBRIATE HOSPITAL ASSURED.

The Journal for May, 1906, contained an extended communication from Dr. Theodore Diller, Pittsburgh, entitled "Should the Commonwealth Provide a Special Institution for Inebriates and Dipsomaniacs?" At the meeting of the society in September of that year Dr. Diller read a paper indicating "the great need of a proper hospital, owned and operated by the state, to which patients could be committed for a definite period, to make the Act of 1903 effective." This paper was ably discussed by Drs. Carrell, Gates, Charles K. Mills, Burr, Beates and Frankhauser. The society authorized the appointment of a Committee on Inebriate Hospital, and Dr. Diller was made chairman of the committee, a position he held until last year when the committee was allowed to be discontinued. Governor Stuart vetoed the first bill that was passed by the Legislature, making an appropriation for an inebriate hospital, as there were not sufficient funds for the same. The last Legislature passed a bill appropriating $50,000, but on account of the lack of funds Governor Tener reduced the amount to $20,000. This will be sufficient to purchase grounds, make some plans for the building and thus ensure the institution. Drs. Diller, Mills, Holtzapple and other physicians deserve much praise for their persistent work for the establishment of this much needed institution. The successful outcome of this effort is due largely to Senator David Hunter, Pittsburgh, who for his efficient services in behalf of the measure deserves the thanks of those interested.

Our state society has started many reforms and when well-started has left them to be carried on by other agencies. In this connection it may be well to remember some of the remarks of Dr. Frankhauser when discussing the paper of Dr. Diller at Bedford Springs: "Why not take the other side of the matter, and eliminate the causes? Prophylaxis is always better, we are taught, than cures; why is it not here? . . . The better plan is to prohibit the conditions which make the man an inebriate." Medical men above all others should give attention to these things, especially the clubhouses which Dr. Frankhauser considers more harmful than saloons. Then there are other problems, such as child labor, and unsanitary conditions and long hours for working women. S.

HISTORICAL NOTE ON UTERINE CANCER.

Bookworms now and then secure copies of last century's textbooks. Often the very clear and readable style adds to our enjoyment of the matter, and we find excellent clinical pictures, as well as statements that are amusing and lamentable signs of ignorance which probably caused needless fatal consequences. For example:—

> "Digital examination will detect the roughness, irregularity or hardness of commencing cancer with more certainty, and at earlier periods, than ocular examination with the speculum. But is examination always to be resorted to? . . . . repeated examinations can do no good. We may conclude, with every probability of truth, that in such indistinct cases the persons who think the most and talk the most of the state of their uterine organs have nothing really the matter; if by examination we have discovered what we deem the indication of commencing scirrhus, the information can be of little practical use; the knowledge is unquestionably of value, but we can neither make use of it to arrest a disease which we believe incurable, nor to warn the patient of impending danger, when our convictions are not quite certain. By a little delay the symptoms become more pronounced, the examination more called for, and the result more certain; in the early stages of disease, it is therefore unwise to press for it (the examination), if we mean to act as honorable members of the profession."

Reading these lines from Barclay's Diagnosis (Blanchard and Lea, 1858) we realize the difference created by sixty odd years. May we not ask whether any pronouncements of to-day may arouse similar sentiments some half a century further on? What mistakes can we avoid by analysis of the historical trend of our science? Too frequently we assume that disease is incurable, and say so. This is a fallacious attitude. Many clinicians, among them J. Ramsay Hunt (I recollect his words one afternoon in his dispensary at Cornell) assert the need of a hopeful frame of mind. To view a morbid process as one lethally directed, and beyond any means of control, is bad psychology for the doctor. This inevitably hampers his therapeutic choice. It signalizes the defeat of that very end which a more guarded, yet rational, prognosis would tinge with hope—and its congener, success. T. H. E.

LACTOPEPTINE MISBRANDED.

A report of the Council on Pharmacy and Chemistry in 1907 demonstrated that Lactopeptine was at that time a weak saccharated pepsin. A reëxamination by the Council[1] shows that Lactopeptine, as it is sold both in the United States and in Great Britain, is still the same weak pepsin preparation. By the false statements which appear on the Lactopeptine label, the exploiters lay themselves liable to prosecution under the Food and Drugs Act, just as they have laid themselves liable for the past six years. The continued exploitation of this preparation warrants a restatement of facts: (1) A preparation having the composition claimed for Lactopeptine (a powder containing pepsin, pancreatin, diastase, lactic acid and hydrochloric acid) can not be produced commercially. (2) Even if such a combination were available, the acidity of the mixture itself and of the gastric juice would in all probability destroy the pancreatin before it could reach the intestinal tract. (3) Even if every constituent could exert its proper function at the right time, the administration of such a shotgun mixture would be unscientific and uncalled for. S.

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[1] *Jour. A. M. A.*, Aug. 2, 1913, p. 358.

CHANGES IN MEMBERSHIP OF COUNTY SOCIETIES.

The following reports have been received since the July Journal was printed:—

Allegheny County: *No Longer a Member*—Francis T. McDonald (left state).

Armstrong County: *No Longer Members*—S. P. Heilman; Gus I. Slagel.

Chester County: *New Member*—Henry F. C. Heagey, Cochranville. *No Longer a Member*—Arthur W. Carmichael.

Clearfield County: *New Member*—Jonathan Currier, Grampian. *Removal*—J. M. Quigley from Westover to Clearfield.

Delaware County: *Resignation*—D. Forest Harbridge, but he remains a member of Philadelphia County Society.

Dauphin County: *Removal*—George L. Laverty from Harrisburg to Middletown.

Lancaster County: *New Members*—James Augustus Smith, Reamstown; Winfield M. Thorne, Mount Joy.

Luzerne County: *Removals*—William A. Lynott from Wilkes-Barre to 502 Traders Bank Building, Scranton.

McKean County: *New Members*—Howard Martin Cleveland, Mount Jewett; Burg Chadwick, Smethport.

Mercer County: *New Members*—Watson E. Campbell, Sharon. *Removal*—Florence B. Matta from Sharon to Brownsville, Fayette County.

Monroe County: *New Members*—Guerney A. Gregory, William E. Gregory, Carl Rosenkrans, Stroudsburg.

Montgomery County: *New Members*—J. Warren Bauman, Lansdale: Flora Parker-Easton, Amy Jean Rule, Norristown; John Rouse, Ogontz. *Removal*—Samuel A. Carpenter from Phoenixville to 2265 North Sixteenth St., Philadelphia; F. C. Potter from Norristown to Central Indiana Hospital for the Insane, Indianapolis, Ind.

Perry County: *Removal*—Arthur D. VanDyke from Marysville to Cor. Miller and Lewis Sts., Elmira, N. Y.

Philadelphia County: *New Members*—Louis Barenbaum, Walter L. Cariss, Charles C. Corson, James H. Cunningham, Joseph Endres, Harry E. Fineman, Thomas P. Loughrey, David N. Rappoport, Philadelphia. *Removal*—D. F. Harbridge from Philadelphia to Goodrich Block, Phoenix, Arizona. *Death*—Thomas W. Bailey (Univ. of Pennsylvania, '02) in Philadelphia, August 1, from typhoid fever.

Sullivan County: *Death*—William F. Randall (Jefferson Med. Coll., '92) at Dushore, July 17, drowned while attempting to rescue from the bottom of a well, a workman overcome with gas, aged 46.

Venango County: *New Member*—Charles H. Brown, Franklin.

Washington County: *New Member*—Harry A. Whyte, Washington. *Removal*—L. D. Sargent from Beallsville to Washington.

Westmoreland County: *New Member*—Adam S. Kepple, Hannastown.

York County: *No Longer a Member*—E. M. Free.

Present membership, 6119. S.

STATE NEWS ITEMS.

MARRIED.

Dr. James Davis Lewis, Scranton, and Miss Irene Page, Clark's Summit, June 18.

Dr. Albert M. Cook, New Castle, and Miss Gevien Rudesill, Los Angeles, June 11.

Dr. Charles Grant Eicher and Miss Nannie Tannehill, both of McKees Rocks, June 28.

Dr. Charles Henry Stone, Coatesville, and Miss Elizabeth Comly Hoopes, West Chester, July 15.

DIED.

Dr. Albert Arthur Newell (Univ of Pittsburgh, '92) in Crafton, July 4, aged 59.

Dr. Horace F. Jayne, (Univ. of Pennsylvania, '82) in Wallingford, July 8, from heart disease, aged 54.

Dr. James A. Osborn (Hahnemann Med. Coll., '75) in Milton, July 22, from heart disease, aged 73.

Dr. Emma E. Richards (Woman's Med. Coll., '86) in Wyomissing, August 1, of nervous exhaustion, aged 63.

Dr. William Henry McFadden (Pennsylvania Med. Coll., '52) chief engineer of the Philadelphia Water Bureau and later connected with the Camden (N. J.) Gas Works, in Philadelphia, July 2, aged 85.

ITEMS.

The Montgomery County Medical Society held its annual banquet at Fortside Inn, June 10.

The Cumberland County Medical Society at its meeting, July 8, designated its censors as a committee to confer with the lay press of the county.

Dr. James I. Johnston, Pittsburgh, delivered a lecture on "Cancer of the Stomach and Bowels" before the Mercer County Medical Society at Mercer, July 11.

Dr. Arthur C. Morgan, Philadelphia, addressed the Wayne County Medical Society at South Sterling, July 17, on "Pleurisy and Its Relation to Tuberculosis."

Passed State Board. Of the 267 graduates who took the June examination before the State Bureau of Medical Examination and Lisensure 218 passed and 49 failed.

The Presbyterian Hospital, Philadelphia, receives by will of the late Miss Elizabeth L. Lewis, of that city, $100,000, half for building and half for maintenance purposes.

Dr. John C. Price, Scranton, has been appointed chief medical inspector of the new Department of Labor and Industry by Commissioner Jackson. Dr. Walter H. Blakeslee, Philadelphia, is also appointed to the work of medical inspection.

Philadelphia Milk to Be Pasteurized. A new rule of the Philadelphia Board of Health provides that all milk and cream sold in the city shall be pasteurized except that which is certined or guaranteed by authorities approved by the Board of Health.

The Lehigh Valley Medical Association held its thirty-third annual meeting at Buckwood Inn, Shawnee-on-Delaware, July 17. The winter meeting will be held in Scranton, January 15, 1914. Dr. G. F. Seiberling, Allentown, was elected president, and Dr. J. W. Luther, Palmerton, secretary.

Typhoid Fever from Watercress. Nineteen of the guests at a marriage celebrated in Philadelphia last month now have typhoid fever and the bride and bridegroom are sick up in Maine. It is claimed that the infection came from watercress grown on a Delaware County farm where unsanitary conditions are said to prevail.

Doctor's Daughter Dies from Morphin. The only child of Doctor Charles S. Caldwell, Swissvale, climbed into his automobile, opened his medicine case and ate some morphin tablets. The mother thought the little girl, aged two and a half years, was tired and put her to bed but later discovered that she was breathing heavily. All efforts to arouse her failed.

Philadelphia Mortality. For the week ending July 26 there were 193 deaths reported in Philadelphia, as compared with 416 for the corresponding period of last year. Diarrhea and enteritis (under one year) is given as the cause of 73; tuberculosis of lungs, 46; Bright's disease, 46; heart disease, 45; cancer of stomach, 15; cancer elsewhere, 17; pneumonia, 13; apoplexy, 13; measles, 7; typhoid fever, 5.

A Baby Saving Show was opened in the Neighborhood House, Palmerton, July 22, and lasted four days, under the auspices of the Palmerton Hospital Auxiliary and the Board of Health. Exhibits had been sent by the State Department of Health, the State Live Stock Sanitary Board, the United States Department of Agriculture, the American Association for the Study and Prevention of Infant Mortality and the Lancaster Board of Health.

Rural Nursing Plan. The Rural Progress Association of Muncy, composed of women of Muncy and the surrounding country, have organized a State Rural Visiting Nurse Association. The association proposes to maintain the nurse for the benefit of farmers and those living in isolated parts who are not financially able to get a trained nurse in time of sickness and yet who need the services of a scientific and skilled attendant. The nurse will visit her patients, minister to them in accordance with the physician's orders and relieve their families of a large share of responsibility. She will work for the improvement of hygienic conditions in the homes she visits.

Killed and Injured on Rails. The state railroad commission issued on July 19 its report of deaths and accidents for the first six months of the year, contrasting the half year of 1912 with same period of 1913. The deaths on the steam roads were 534 in 1913 and 599 in 1912, and the nonfatal accidents on the same roads were 5750 in 1913 and 4990 in 1912. Fatalities on the steam roads this year included 154 employees, 10 passengers, 314 trespassers and 56 others, these 56 all being killed at grade crossings, while 121 persons were nonfatally injured at these crossings. The employees killed included 49 brakemen, 41 section men, 11 car inspectors, 12 conductors, 11 track walkers, 7 firemen, 7 engineers, 6 yard crew men, 4 crossing switchmen and 1 carpenter. On the electric railways the deaths this year were 98 and last year 85, while the nonfatal accidents were 1641 in 1913 and 1931 in 1912. Those fatally injured included 11 employees, 9 passengers, 12 trespassers and 66 others.

GENERAL NEWS ITEMS.

The Medical Society of the Missouri Valley will hold its twenty-sixth annual meeting at Hotel Rome, Omaha, September 18-19.

"The United Doctors." Business men's organizations, courts and even newspapers are beginning to realize that such concerns are simply swindlers. (See *Journal of the A. M. A.* for March 1 and August 9.)

A Palatial Hospital. The plans for the new Isolation Hospital, Chicago, which have been prepared provide for an institution to cost $280,000. Every patient will, it is said, have a room or cubicle of his own, with glass walls and be provided with a telephone. The hospital is planned to accommodate 136 patients.

Railway Surgeons' Meeting. At the sixth annual meeting of the Surgeons' Association of the Buffalo, Rochester and Pittsburgh Company, held in Niagara Falls, N. Y., July 9, Dr. T. T. Mooney, Rochester, was elected president; Dr. J. D. Palmer, Johnsonburg, Pa., vice president, and Dr. J. G. Flynn, Ridgway, Pa., secretary. Dr. Roswell Park, Buffalo, addressed the association on "Brain Surgery."

Illegal Practitioners. Successful prosecution of illegal practitioners of medicine depends first of all on the disposition of the authorities to prosecute. There are exceptions, but as a rule our courts are ready and willing to get in behind genuine fakers who are violating the medical practice act, if anything like proper evidence is forthcoming. Officers have long since learned that it does not pay to arrest alleged violators of any law merely on suspicion, unless a real crime has been committed. It is not sufficient to believe or even to know that a law has been violated, there must be positive proof before the courts can afford to convict.—*Texas State Med. Jour.*

The Council on Pharmacy and Chemistry. Since July 1 the following articles have been accepted for inclusion with New and Nonofficial Remedies: Acne vaccine, pertussis vaccine, meningococcus vaccine, coli vaccine (20 c.c. vials), pneumococcus vaccine (20 c.c. vials), gonococcus vaccine (20 c.c. vials), staphylococcus vaccine (20 c.c. vials), staphylococcus albus vaccine (20 c.c. vials), staphylococcus aureus vaccine (20 c.c. vials), streptococcus vaccine (20 c.c. vials), typhoid vaccine (20 c.c. vials), Lederle Antitoxin Laboratories; tetanus antitoxin, H. M. Alexander and Company; digipuratum ampules, digipuratum solution for oral use, Knoll and Company.

Martyrs to the X-Ray. Dr. Charles L. Leonard of Philadelphia, chief of the Polyclinic Hospital staff, and an expert in electrotherapeutics, is said to be in a serious condition from the effects of the x-rays, with which he has been working for many years. Growths starting in one hand made it necessary some time ago to remove the hand, and recently the whole arm was removed. Every effort is being made to check the further spread of the disease. Doctor Leonard assisted Dr. William L. Clark, also of Philadelphia, in treating Mr. Burton E. Baker, inventor and manufacturer of x-ray apparatus, who died in Hartford, Conn., on July 10. Mr. Baker began his work in the x-rays in 1895, and it was in 1905 that the first signs of disease were noticed He continued his work, however, and six months ago it was found that his whole system had been affected by the cancerous growth. Radium and surgery were tried, but without stopping the disease. It is said that between thirty and forty scientific men have lost their lives through the continued use of the x-ray, about twenty being physicians.

Chiropractic—A Judge's Opinion. Chiropractic is a freak offshoot from osteopathy. Disease, say the chiropractors, is due to pressure on the spinal nerves; ergo it can be cured by "adjusting" the spinal column. It is the sheerest quackery, and those who profess to teach it make their appeal to the cupidity of the ignorant. Its practice is in no sense a profession but a trade—and a trade that is potent for great harm. It is carried on almost exclusively by those of no education, ignorant of anatomy, ignorant even of the fundamental sciences on which the treatment of disease depends. A chiropractor of Canton, Ohio, was recently fined $200 and costs and sentenced to sixty days in the workhouse for practicing medicine without a license. In imposing sentence, Judge Krichbaum, before whom the case was tried, said in part:—

"There is unfortunately growing up in this country of ours a general defiance of the law. In the opinion of the court, you and the school to which you belong are in this class. This court does not take much stock in the claims you make that you were not practicing medicine. It is not within the province, nor the purpose of the court to criticize the class of school to which you belong, nor the efficiency of your treatment. . . . You claim to be a doctor of chiropractic; the technical meaning of the word 'doctor' is a person, learned, well-taught, well-informed, and universally a doctor is recognized as being able to alleviate physical suffering. For a long time there has been running in the magazines an advertisement: 'Be a Doctor of Chiropractic, the new Drugless Healing Science of Spinal Adjustment; a common school education is all you need to begin; our simplified training does the rest.' Men who believe in education, who glory in our school system, in our colleges, are staggered at this audaciousness. Certainly to conform to the requirements in the practice of medicine in the State of Ohio, could only make you more efficient, more capable for the practice of your profession. . . . The logical results of permitting you to practice medicine without a certificate from the state board would be to lower the standards of schoolteachers, of druggists, of physicians and every other class necessary to maintain an orderly regime of civilization, and wholesome living—in short, to open the doors for all charlatans to prey on the suffering. There is a growing tendency to raise all intellectual standards. The execution of this law rigorously will be a step in this direction."

Canton is to be congratulated on having a jurist with as broad a grasp of fundamentals as that shown by Judge Krichbaum.—Editorial, *Journal, A. M. A.*

COUNTY BULLETIN EXCERPTS.

Roster, Columbia.

What Is Wrong? There are forces all about us at work, invisible though they may be, that are gradually, though surely, removing little by little the supports of the pedestal upon which the old family physician has stood for ages. We have stood idly by and allowed these things to take place, and these conditions will go right along, more rapidly than in the past, and we must adjust ourselves to these conditions, whether we like them or not. There is no choice for us now but readjustment, if we expect to hold our present prestige. There is no going backward, even if we would, but forward ever is the watchword. And in doing so we must compel, by skill, efficiency, knowledge, and upright living, the respect due the profession, putting aside all things that would belittle us. For I believe one of the reasons we find ourselves in our present condition, so far as the general public is concerned, is due often to the petty jealousies existing among contemporary practitioners. Shame on us! But true nevertheless.

Bulletin, Crawford.

It Has Not Been the intention to edit a miniature medical journal or in any way preempt the field of the State Journal. Neither has it endeavored to convey to the absent members the content of the scientific papers or discussions, or the inestimable benefits of fraternal fellowship manifest at the meetings, as it is believed that these should be obtained only by attendance of the meetings.

Pennsylvania, we are glad to see, makes a fair showing in the Public Health Report for the last year. As a state not all has been accomplished that might have been. Naturally the general work is largely dependent upon the special work of the county societies. Does Crawford County feel the need of spreading broadcast the doctrine of "how to live"? Why is it so difficult to obtain voluntary service in this work? Orators are not demanded. A busy physician has not time for oratorical flights and elocutionary upheavals. He should have time, however, to voice hygiene and medical truths that will tend not only to make a rift in the cloud of ignorance that hangs over our people, but that will bring about the alleviation of sorrow and pain that ever follows in the wake of disease, and will lead on toward a better and more wholesome humanity.

Medical Bulletin, Montgomery.

Philadelphia Meeting. We want to learn in Philadelphia, we want to see you doing good medical work. We want to be shown where the money is going that our legislature is giving your hospitals. We want to see good medical clinics, good surgical clinics. Frank C. Hammond, chairman of the Publicity Committee, tells us you are going to rival the Surgeons' Congress held in New York last fall. Write us that you are going to show us laboratories in working order with trained assistants to explain rare specimens. Write us that clinics will begin at 8 a.m. and continue until 6 p.m. Write us that the work will be so systematized that in different groups men with different desires can get what they are athirst for. Spend time and money to perfect these details and each one of us country farmers will be able to find opportunity to show our wives the sights of the town. We want medical work. We want to see all the specialists working, we want to see all the surgeons working. We want to go back to our homes better doctors, better specialists, better surgeons. We are not going to Philadelphia for a vacation. We want to attend the Pennsylvania Medical Society meeting to learn. What will you teach us?

OFFICIAL NOTES.

REPORT OF THE DELEGATE TO THE NINTH ANNUAL CONFERENCE ON MEDICAL EDUCATION AND LEGISLATION.

The Conference on Medical Education held in Chicago, February 24, 1913, consisted chiefly of the reports of the chairman and secretary, in regard to the work already accomplished and the pending laws which were believed to be about to pass in several states, raising the requirements for medical education and licensure.

The chairman's and secretary's reports indicated that the requirements for graduation and medical licensure proposed by the council had been so commonly approved and generally accepted that there is every indication and hope that they will be the established requirements of the United States. This side of the work was considered accomplished.

The new work, or the further work to be accomplished in the opinion of the council seems to be the requirements of a fifth year for the medical degree, this fifth year to be a practical one, spent by the student as an intern in an accredited hospital.

The proposition is that hospitals all over the country shall be graded after the same manner and with the same relative standard as the gradation of the medical colleges (report of which by the way, was presented to the meeting). That is to say, the hospitals would be graded in A, B, and C classes. Those of the A and B class should be approved, those of the C class should not receive approbation until they should be brought up to the standard. The Carnegie Foundation again has volunteered to assist in this work.

In another year, therefore, it will be probable that hospitals all over the country will have been placed in their proper grades. The council will recommend the establishment of this curriculum of five years, with the understanding, that the last, the fifth year, shall be spent by the student as an intern in an accredited hospital.

In the Conference on Medical Legislation the discussions trended especially towards the suggestion of this fifth-year requirement of the curriculum and the teaching of the grade schools and the high schools with reference to uniformity of requirements and course for the final degree.

Lay educators suggested that the main difficulty in regard to preparation for medical degree was not with the high schools, but with the secondary schools. The average course is adapted to children more or less deficient and it was suggested that these secondary schools be so modified that the grades should be apportioned to those who could advance more rapidly than to slower ones. In this way a bright young man, who wishes to study medicine, could complete his course in a period of less than ten years, where now it sometimes requires twelve years.

It seems to your delegate that with the establishment of the required course of at least one year in applied science in addition to the standard high school and course for medical education, and the establishment of five years, the last year a practical one in the hospital, as a proper medical training, will weed out the unfit, and the young men who are not thoroughly determined in their desires to become physicians, and make the profession in the United States as fully equipped as in any other nation of the world.

This curriculum will however make it very difficult for many hospitals to obtain interns and will result in the necessity of paying small salaries to these young physicians.

This year the meetings of the Council on Medical Education, which occurred on Monday, February 24, was followed the next day, namely, Tuesday, by the Council on Medical Legislation, and on this same day, the Conference of State Examining Boards took place.

These two important meetings occurred on the same day and at the same hours. It was an unfortunate arrangement, as it detracted from the attendance in both meetings and distracted the attention of delegates so that they missed some of the good things in both conferences.

As the State Licensing Boards are assuming more and more importance, as their legislative powers are increased, it was natural that this meeting, namely, the meeting of the Conference of the State Licensing Boards should attract the greater attendance and interest.

While your delegate was not officially a member and could not be with the Licensing Boards, he is happy to say that the state was officially represented and ably so by the chairman of the Bureau of Medical Education and Licensure and he found that the recent medical license law of Pennsylvania was attracting very considerable attention, and general approbation.

One or two of the pending laws, especially the one which is generally commended, namely, that of Wisconsin, apparently are modeled very much upon the lines of the Pennsylvania law.

The delegate believes that these conferences of the State Licensing Boards, next to that of the Council on Medical Education, will be the most important one of the American national conferences and will lead probably to something like sufficient uniformity amongst the state licensing acts to bring about genuine reciprocity between the states, and will act as the true influence to bring about the standardization of medical education by proper statutes in the various states.

Respectfully submitted,
W. L. ESTES, Delegate.

ADDITIONAL CLINICS AT PHILADELPHIA.

(See JOURNAL, April, page 580; June, page 729.)

MONDAY.

Pennsylvania Hospital.

Dr. Newlin, Medical Clinic.
Dr. Gibbon, Dr. Harte or Dr. Hutchinson, Surgical Clinic.
Dr. Bowen, X-Ray Demonstration.
Dr. Packard, Nose and Throat Clinic.
Dr. Shoemaker, Eye Clinic.

St. Mary's Hospital.

F. J. Kalteyer, Some rare cases of lead poisoning.
J. A. Boger, Syphilitic lesions of the nose showing the results of salvarsan.
E. R. Kirby, A case of renal calculus, treatment of tumors of the bladder by sparking.

FRIDAY.

Pennsylvania Hospital.

Dr. McCrea, Medical Clinic.
Dr. LeConte, Dr. Stewart or Dr. Mitchell, Surgical Clinic.
Dr. Coates, Bronchoscopy and Esophagostomy.
Dr. Schwenk, Eye Clinic.

St. Mary's Hospital.

G. Kieffer, Some unusual cases of paralysis.
J. A. Boger, General Surgical Clinic.
E. R. Kirby, Ureteral calculus; catheterization of the ureters; suprapubic prostatectomy.

COMMUNICATIONS.

MUST HAVE A LICENSE BEFORE BEGINNING PRACTICE.

To the Editor: Will you kindly publish in your journal the following communication, the import of which is of interest to the medical profession?

During June of the year 1912 an applicant for licensure to practice medicine in Pennsylvania failed at the state examination and was told by the Committee on Public Policy and Legislation of a county medical society that if he entered upon the practice of medicine before taking the next state examination, he would not be molested by them nor by their county medical society, and probably not by the Bureau of Medical Education and Licensure.

At a later period a practitioner from another state was informed that she could begin and carry on the practice of medicine during the time she was waiting to take the state examination. In both instances the advice was contrary to law.

The recent amendments to the medical law make it the duty of the Bureau of Medical Education and Licensure to enforce the law; and the Bureau desires to serve notice that it is illegal for any one to begin to practice while waiting for the state examination or before obtaining a license from the Bureau; and that such violations of our medical law will be prosecuted and the offenders will be penalized in accordance with the provisions of the Acts of Assembly regulating the practice of medicine and surgery in the State of Pennsylvania.

Very respectfully,
NATHAN C. SCHAEFFER, Secretary,
Bureau Medical Education and Licensure.

THE MAYO CLINIC.

To the Editor: Every follower of Islam hopes at some time to make the pilgrimage to Mecca, there to partake of the waters of Zemzem and to salute the sacred black stone of the Caaba, so that his standing in the faith may have this added recommendation of his devotion to his belief. In like manner at Rochester, Minnesota, we find gathered, at odd times during the year from all over the world, some three thousand physicians who have traveled there to have their curiosity appeased, to increase their store of knowledge, or to improve their local standing by having it said that they have visited this Mecca of modern surgery, the Mayo Clinic.

One should understand at once that the Mayo Clinic is nothing more or less than the private surgical practice of its two principals, grown by sheer force of circumstances into an international institution. With this fact in mind, later conclusions on the part of the visitor will not be erroneous.

The history of the efforts of the brothers Mayo to establish in their little town a surgical practice of the highest type and of their signal success in doing it is so well known that it would be superfluous to repeat that history here, but, knowing this and seeing the clinic at work, the visitor immediately begins to wonder as to its permanency. No one after seeing the work doubts the positive strength and security of this great enterprise at the present time. One realizes, however, that it is all the result of the work of master organizers, combining more than ordinary business ability with even greater professional ability, a combination usually wanting in the individual physician and rarely found where physicians are well organized; and that for its perpetuity it depends upon their further ability to stamp indelibly their individuality upon it.

Knowing these things it becomes a matter of pride to the American physician to be able to point to the Mayo Clinic as the one unusual place where the legitimate and necessary commercialization of medicine has been carried on hand in hand with the most advanced type of scientific attainment, without doing violence to either and without the aid of public funds or in connection with large so-called charity institutions. This is even more pleasing when it is known that the needs of the poor are not forgotten, the cost of their treatment is tempered to their circumstances, and yet all are raised to a level of equality by being placed upon the same operating tables and their identities covered by similar sterile sheets, each receiving his necessary proportion of surgical skill to fit his needs without reference to his station in life.

At the present time a corps of fifty physicians is employed in carrying on the work of the institution, each a specialist in his line. All are earnestly engaged in perfecting diagnostic technic or operative skill, and all, as an organization or as individuals, are delving in research work to improve conditions towards the common end. It is indeed a great and unique community of interest.

To visiting physicians the surgical clinics have been thrown open with no restrictions except such as are necessary to maintain order and to prevent interference with the activities incident to the busy work of the five operating rooms. This is maintained through an organization known as the "Surgeons Club of Rochester" which each physician is expected to join and to which he contributes the small sum of two dollars for his temporary stay. This club meets daily for the discussion of the work seen at the clinics and there are usually provided one or more short talks by members of the staff who are detailed to present to the club demonstrations of the work that is being done in the operating rooms and laboratories and to answer such questions as the visitors may wish to ask. One wonders at the forbearance of these men who make it an invariable rule to answer as kindly and carefully as they are able questions which often are foolish and sometimes impertinent. The visitors are also accorded the privilege of meeting with the general staff where they may listen to the reviews of literature and the discussion of points, at issue in the general work, which are taken up at these meetings. Furthermore, in small parties the visitors are made welcome to the laboratories where they may see the work of diagnosis going on.

The system of diagnosis should cause one to pause and consider; for, previous to a patient's being brought before one of the surgical chiefs for consultation as to the advisability of an operation, he is subjected to any and every form of examination at the hands of the various diagnostic specialists, which will serve to make the demonstration of his malady absolute and the need of surgery apparent. Hope and good cheer are everywhere present. The prospect of an operation is not a gruesome thing to the patients for they have traveled there hoping to be operated on and cured. The hopeless ones are those who are frankly told that they can not be thus treated. Since this spirit of hope pervades the whole system and no other attitude is countenanced in either patient, physician or attendants at any time, it becomes infective and amounts almost to a hypnosis.

Noting the work of those who are engaged in special diagnostic procedures, one realizes promptly that no expense has been spared in bringing to Rochester men of the highest rank in their particular lines.

The permanent "Mayo Clinic" is now in course of construction. A building which is to cost a half million dollars is being built to succeed the old suite of offices which are now too small to accommodate the great increase in this remarkable private practice. This building is the first of the larger measures which will have to be taken to make permanent the Mayo regime when natural causes have removed the founders from their present sphere of activity and influence.

Too much space would be required to accurately describe this building. It is sufficient to say that neither space nor expense has been spared upon it where such was needed to produce the most satisfactory results in the way of laboratory and office facilities and place for the reception of patients. This building is the "office" and is not intended to afford accommodations for housing patients.

The need for such a building is evident when one learns that approximately one hundred patients are received daily for surgical treatment of some kind, thirty or more of whom are eventually found to be subjects for some major surgical operation and are entered in St. Mary's Hospital; the remainder, being amenable to minor surgical procedures, are treated in the special departments, such as those of the eye, or the nose and throat, and these patients live where they desire in the town.

One would not expect to find metropolitan hotel accommodations in a town of eight thousand inhabitants; and so it became necessary for the Mayos to see that sufficient good hotel accommodations were provided the thirty odd thousand patients, who, with their friends and attendants, come to Rochester during the course of a year. In addition to this, many of the private homes of the town are conducted as "boarding houses."

About a mile away from the great central clinic building and in the outskirts of the town is situated St. Mary's Hospital where the surgical clinics are conducted. This hospital is conducted by the order of Franciscan Sisters and is a well-established institution principally of the private type, there being none of the large public wards that we are accustomed to see in large institutions. At present it has beds for three hundred patients and has in course of construction wings to accommodate two hundred fifty more patients. These are said to be for medical patients, and here we see a newly entering factor in the "symptom complex" of the permanent Mayo idea. However, it is said that the new second floor has already been spoken for by the Mayos to accommodate in their surgical work the overflow of patients which is even now upon them. St. Mary's Hospital owes its present wealth and size to the Mayo regime and is one of the collateral incidents of the general success. In a financial sense it is independent of the business of the surgical clinic, making its own charges for hospital accommodations and dispensing charity where in their good judgment the sisters find cases in need of it. A large training school for nurses is conducted in conjunction with the work of the nursing Sisters. One particular feature that the visitor notes and remembers is the faithful care and attention to detail of Sister Joseph, who has assisted Dr. W. J. Mayo for twenty years. To her nimble fingers and excellent judgment is due no small amount of the rapidity of work and perfection of technic of this, the premier operating room.

If the heads of the Mayo Clinic live out their expectancy they have twenty years yet in which to work, or, by their advice, to influence its conduct. May good health always attend them. To their last days the wisdom of William, the tactical general, and Charles, the philosopher, will be the *sine qua non* of its general conduct. It is apparently well understood that the idea of the individuality of the Mayos as the one particular thing which should attract patients to the clinic is gradually being superceded by their concerted effort to develop a Mayo system of diagnosis, care and treatment of surgical affections, as taught by the founders and practiced in this particular institution, which will be strong enough to hold the organization and business together after the founders have ceased activity.

Although in the prime of life, the Mayos are now transferring to their very capable associates the majority of their surgical work, because it is physically impossible for them to do it all, and because they wish to demonstrate their ability to develop surgeons of the first rank and the possibility for a patient to get all that he requires of the Mayo methods without the presence of the Mayos themselves. So it would seem that they hope to be able to withdraw themselves gradually during their lifetime and yet see the clinic go on with all of its present vigor.

One asks how it is that they have obtained their wonderful success. They modestly insist that they do not do any better surgery than good surgeons at other institutions; but statistics show that they get results, and this is apparently the little "nigger" of success that one can find by hunting carefully in their "wood pile."

William Rowland Davies.

WORKS ON EUGENICS.

Waynesburg, June 28, 1913.

To the Editor: Can you give me the name of a good book on Eugenics? I am unable to find anything in medical journals of publishers' or authors' names of such.

Thanking you in advance, I am yours,

R. W. Norris.

Athens, July 3, 1913.

R. W. Norris, M.D.,
Waynesburg, Pa.

Dear Doctor: Yours of June 28 was duly received. There do not seem to be very many books on Eugenics but there is an abundance of magazine literature. On page 75 of the *Journal of the American Medical Association* for January 4, 1913, you will find an extended review of "Heredity and Eugenics," a course of lectures summarizing recent advances in knowledge in variation, heredity and evolution, and its relation to plant, animal and human improvement and welfare, by William Ernest Castle, John Merle Coulter, Charles Benedict Davenport, Edward Murray East and William Lawrence Tower; cloth; price, $2.50 net; pages 315; Chicago: University of Chicago Press, 1912.

On page 584 of the *Journal of the American Medical Association* for February 24, 1912, you will find a review of "Heredity in Relation to Eugenics," by Charles Benedict Davenport, Carnegie Institution of Washington, Director; cloth; price, $2.00; pages 298; New York; Henry Holt and Company; 1911.

There is a book called "Child in the City," published last year by the Chicago School of Civics and Philanthropy, which gives much valuable information.

You may be interested in some of the following magazine articles. Copies of any of the magazines can be secured by addressing the respective publisher. The prices given are for the year and not for the single issue.

American Journal of Sociology: $2.00. University of Chicago Press, Chicago, Illinois. July, 1912, "Heredity in Relation to Eugenics" by C. B. Davenport (Review).

American Magazine: $1.50. Phillips Publishing Company, 381 Fourth Ave., New York. March, 1912, "New Science and Its Findings; Discoveries of Carl Pearson," by A. J. Nock. January, 1913, "Is It True? Karl Pearson's Investigation of the Families of Drunkards and Teetotalers" by A. J. Nock.

Atlantic Monthly: $4.00. Atlantic Monthly Company, 4 Park St., Boston, Mass. December, 1912, "New Science" by S. G. Smith, "Race Culture" by S. Strunsky.

Catholic World: $3.00. 120 to 122 W. 60th St., New York. June, 1912, "Eugenics and Catholic Teaching" by T. J. Gerrard.

Chautauqua: $2.00. Chautauqua Press, Chautauqua, N. Y. September, 1912, "Indiana and the Science of Eugenics."

Conference of Charities and Correction, National, Proceedings: $2.00. National Conference of Charities and Correction, Alexander Johnson, Sec., Fort Wayne, Ind. 1912, "Eugenic Problem" by B. Van Wagenen; "Eugenics and Charity" by C. B. Davenport; "Eugenics; Its Scientific Basis and Its Program" by R. M. Yerkes; "Sex Education," by I. S. Wile; "Medical Science and the Medical Profession in the Movement for Sex Education and Hygiene," by P. Zenner.

Contemporary Review: $4.50. Leonard Scott Publishing Company, 249 W. 13th St., New York. January, 1912, "Problem of Eugenics" by H. A. Shelton.

Current Literature: $3.00. Current Literature Publishing Company, 134 W. 29th St., New York. May, 1912, "Eugenics Supported by the Church"; June, 1912, "Four Great Problems of Eugenics"; April, 1912, "Our New Responsibility to the Race"; October, 1912, "Results Expected from the Eugenic Congress.'

Delineator: $1.50. Butterick Publishing Company, Butterick Building, Spring and Macdougal Sts., New York. April, 1912, "What Will Your Child Inherit?" by E. C. Macomber.

Dial: $2.00. Fine Arts Building, 410 Michigan Ave., Chicago, Ill. July 16, 1912, "Controlling Man's Evolution" by R. Pearl; October 16, 1912, "Task of Social Hygiene" by H. Ellis (Review).

Fortnightly Review: $4.50. Leonard Scott Publishing Company, 294 W. 13th St., New York. October, 1912, "Friends and Foes of Eugenics" by M. Crackenthorpe; May, 1912, "Eugenics" by E. A. Tweedle.

Good Housekeeping Magazine: $1.50. 381 Fourth Ave., New York. July, 1912, "Practical Application of Eugenics" by W. M. Polk; February, 1912, "100 Superfine Babies" by G. E. Dawson; March, 1912, "Teaching of Sex Hygiene" by P. A. Morrow; April, 1912, "What Not to Teach Our Children upon Race Hygiene" by W. Hutchinson; September, 1912, "Sex Hygiene in the Public Schools."

Hearst Magazine: $1.50. 381 Fourth Ave., New York. February, 1913, "Kallikak Family" by H. H. Goddard.

Independent: $3.00. 130 Fulton St., New York. January 18, 1912, "Eugenics Movement," by E. C. Davenport; June 20, 1912, "Eugenics in England" by H. J. Forman; September 12, 1912, "First International Eugenic Congress" by R. Pearl; April 4, 1912, "Sanitary and Other Eugenics"; August 22, 1912, "Eugenics Congress."

Ladies' Home Journal: $1.50. Curtis Publishing Company, Independent Sq., Philadelphia. September, 1912, "What is Meant by Eugenics?"

Literary Digest: $3.00. Funk and Wagnalls Company, 44 E. 23d St., New York. August 24, 1912, "Eugenic Stock Taking"; August 17, 1912, "International Congress to Improve the Race"; March 2, 1912, "Marriage as an Experiment."

Living Age: $6.00. Living Age Company, 6 Beacon St., Boston, Mass. October 12, 1912, "Case for and against Eugenics" by J. A. Lindsay; September, 1912, "Menace of Eugenics."

Medical Times: $1.00. Medical Times Company, 108 Fulton St., New York. August, 1913, "Heredity and Eugenics," by L. Mervin Maus, M.D.

Nation: $3.00. P. O. Box 794, New York. April 15, 1912, "Congress of Eugenists," by H. W. H.; July 25, 1912, "Eugenics and Happiness"; October 31,1912, "Supervising Mankind."

National Education Association; Proceedings and Addresses: $2.00. National Education Association, D. W. Springer, Ann Arbor, Mich. 1911, "Report of the School Health Committee of the Department of Schools Patrons, National Education Association."

Nature: $6.50. Macmillan Company, 66 Fifth Ave., New York. August 1, 1912, "First International Eugenics Congress" by E. H. J. S.; "General Principal of Evolution" by L. Darwin; February 15, 1912, "Inheritance of Mental Characters" by J. M.

New York Medical Journal: $5.00. A. R. Elliott Publishing Company, 66 W. Broadway, New York. August, 1913, "Clinical Eugenics" (Editorial).

Nineteenth Century: $4.50. Leonard Scott Publishing Company, 294 W. 13th St., New York. September, 1912, "Case for and against Eugenics" by J. A. Lindsay; December, 1912, "Problem of Marriage and Divorce; the Church and the Report of the Royal Commission" by J. E. C. Welldon.

Popular Science Monthly: $3.00. The Science Press, Sub-Station 94, New York. November, 1912, "Relation of Eugenics to Euthenics" by L. J. Cole; March, 1912, "Types of Men" by S. N. Patten; January, 1912, "Origin and Control of Mental Defectiveness" by C. B. Davenport; January, 1913, "Inheritance of Acquired Characters" by L. Griggs.

Quarterly Review: $4.00. Leonard Scott Publishing Company, 249 W. 13th St., New York. July, 1912, "Study of Eugenics" by A. F. Tredgold.

Science, n. s.: $5.00. Science Press, Sub-Station 84, New York. September 27, 1912, "First International Eugenics Congress" by R.

Pearl; November 8, 1912, "Heredity and Eugenics" by W. E. Castle and others.

Survey: $2.00. Survey Associates, 105 E. 22d St., New York. November 23, 1912, "Eugenics Movement" by A. V. Eaton; October 26, 1912, "Putting It Up to Philanthropy by J. B. Peabody; December 21, 1912, "Sterilization of the Feeble Minded and of Certain Types of Criminals"; March 2, 1912, "Right to Be Well-born" by F. B. Kirkbride.

Westminister Review: $4.50. Leonard Scott Publishing Company, 249 W. 13th St., New York. July, 1912, "Our Defectives" by J. Harris; October, 1912, "Religion and Eugenics" by C. T. Ewart; May, 1912, "Unfit for Parenthood" by J. Harris.

World's Work: $3.00. Doubleday, Page and Company, Garden City, N. Y., December, 1912, "Building a Better Race" by M. P. Daggett.

Yale Review: $3.00. Yale Publication Association, 135 Elm St., New Haven, Conn. April, 1912, "New Social Hygiene" by H. Ellis.

Education: $3.00. Palmer Company, 120 Boylston St., Boston, Mass. October, 1912, "Social Hygiene" by F. M. Gregg.

I have mailed you copies of four pamphlets by Winfield S. Hall, M.D., Professor of Physiology in the Northwestern University Medical School, Chicago, which are published by the American Medical Association, 535 Dearborn Ave., Chicago, Ill., at ten cents each. "John's Vacation" and "Chums" are for boys and "The Doctor's Daughter" and "Life Problems" are for girls. You can return these books to me at your convenience, or send the net price of ten cents each for those you wish to retain. They are probably the best of several books that are printed for placing in the hands of boys and girls for instruction in sex hygiene.

Many are in doubt as to which agency is the larger in life—inheritance or environment. There is much, very much, in heredity and possibly even more in the early home influence together with the continued social, civic and political conditions influencing our boys and girls. The real solution of these problems awaits upon a sense of individual responsibility. Here is the larger field for eugenics. Here is where it must progress from the almost empty statement of a scientist's ideal to a practical safeguard of the living child as well as the child now unborn.

Cordially yours,
C. L. STEVENS.

REVIEW.

HYGIENE AND SANITATION. A Text-Book for Nurses. By George M. Price M.D., Director, Joint Board of Sanitary Control; Director of Investigation, New York State Factory Commission. 12mo. 236 pages. Cloth, $1.50 net. Lea and Febiger, Publishers, Philadelphia and New York, 1913.

The nurse every day has opportunities to impress upon the laity some of the principles of hygiene and their practical application, and it is therefore one of the essential elements of her training that she should be well informed on a subject of such universal importance. This new work from the pen of Dr. Price is admirably suited to the needs of the nurse in the discharge of her professional duties and its simplicity of diction renders it equally valuable for home use. It is a work to be recommended to any person interested in the prevention of the spread of disease.

L. F. P.

APPENDICITIS. Its History, Anatomy, Clinical Etiology, Pathology, Symptomatology, Diagnosis, Prognosis, Treatment, Technic of Operation, Complications and Sequels. By John B. Deaver, M.D., Sc.D., LL.D., Professor of the Practice of Surgery, University of Pennsylvania; Surgeon-in-chief to the German Hospital; Visiting Surgeon to the Hospital of the University of Pennsylvania, Philadelphia. Fourth edition, thoroughly revised, containing fourteen illustrations. Philadelphia; P. Blakiston's Son and Company. Price $4.00 net.

The fourth edition of Dr. Deaver's "Appendicitis" presents to the profession the acme of perfection of disease of the vermiform appendix Recent advances in clinical and pathological knowledge are responsible for rewriting, revision or additions to several chapters. Far and away the most important addition has been the treatment of general peritonitis and "the walled off abscess" or appendicular peritonitis. Given so clearly and simply the rationale is self-evident, hence the timely warning against "therapeutic peritonitis."

Pathology, with the widened experience with carcinoma of the appendix, is exhaustive while symptomatology and differential diagnosis are most complete and should result in a far greater precision in diagnosis.

Such a work, representing as it does the quintessence of long years of experience in many thousands of cases and the accompanying results of recent advances, gives us an invaluable asset which should be in the hands of every practitioner. The book receives at once an authoritative position, being the product of a master mind, a pioneer on the subject.

R. S. R.

SURGICAL OPERATIONS WITH LOCAL ANESTHESIA. By Arthur E. Hertzler, M. D., Surgeon to the Halstead Hospital, Halstead, Kan., and to the Swedish Hospital, Kansas City, Mo. Surgery Publishing Company, 92 William St., New York. Price, $2.00.

In this work the author very ably shows how local anesthesia can be utilized by the general practitioner, in performing emergency minor surgical operations. The indications for local anesthesia are trivial operations, emergency operations, and those in which a general anesthetic is contraindicated. Success in local anesthesia requires good instruments, and an accurate knowledge of anatomical and pathological conditions. The surgeon must bear in mind changes brought about by inflammation. Author advises "removing the hypertension of apprehension" by a preliminary dose of morphin, at least half an hour before operation. Owing to its uncertainty of action, hyoscin should not be used. "Nerve blocking" is best, but not possible, in every case. Gentleness is the measure of skill, and sufficient time must be allowed for the anesthetic to act, usually some minutes.

Chapter IV. is devoted to drugs used—cocain, the most efficient and most dangerous. It is better to employ large quantities of a weak solution. In the author's estimation a solution of quinin and urea hydrochlorid is the best, and this need not be used in stronger than one per cent. solution. Several chapters are devoted to the technic of producing local anesthesia, and the author's method of performing various surgical operations. These are briefly and clearly described.

Particular attention is given to the more frequent surgical conditions met by the general practitioner, such as removal of tumors, circumcision, strangulated hernia, etc. The classification and arrangement is most excellent, and the most important paragraphs have marginal summaries which add materially to the value of the book.

Taken as a whole the book is a thorough, up-to-date discussion of local anesthesia and should be useful to every physician.

S. D. M.

SOCIETIES.

WILLS HOSPITAL OPHTHALMIC SOCIETY.

Meeting of March 4, Dr. William Zentmayer, Chairman.

The X-ray as an Aid in the Diagnosis of Diseases of the Eye. Dr. Henry K. Pancoast, by invitation, summarized the subject of the x-ray diagnosis in connection with diseases of the eye and orbit, for convenience, in the following manner: (1) The diagnosis of tumors in the region of the optic chiasm, and affecting the pituitary or posterior sinuses. The diagnosis must depend upon bony changes, either absorption by pressure or direct involvement, or the distorting effects of pressure. In the case of sinuses, it may also depend upon shadows obliterating the normal translucency. (2) The detection of tumors on the orbit or anterior sinuses depends upon similar bony changes or shadows obliterating the normal translucency of the sinuses. (3) In tumors involving other portions of the cranial cavity, the diagnosis can be made in only a comparatively small percentage of cases, and must depend upon pressure effects upon the bone or the results of pressure on the venous channels, except in rare instances in which a growth has become more or less calcified. (4) In disease of the posterior sinuses, the diagnosis of posterior ethmoid disease must depend almost entirely upon the lateral stereoscopic view, and in sphenoid disease, the postero-anterior view is also essential in order to determine unilateral or bilateral disease especially. Oblique lateral views and views from above downward may be of assistance. The diagnosis is far more difficult than in anterior sinus disease. (5) Disease of the anterior sinuses is comparatively easy to determine and is uniformly reliable, and needs no special mention. (6) Bone disease of the orbit or sinuses can be determined by the appearance of bony destruction or new bone formation. A clinical knowledge of the case is always essential for best results.

Dr. Posey expressed his appreciation of the aid the x-rays may give the ophthalmologist in the diagnosis of obscure conditions in the orbit and neighboring sinuses, but referred particularly to their value in the lesions affecting the chiasm. The technic has improved so greatly in recent months in operation upon that region that ophthalmologists should avail themselves of every means to insure a correct diagnosis in this class of cases, for it is probable that early operation will, in many cases, prevent blindness later. He has been disappointed in the vague character of the report obtained from the x-rayologist in many chiasmal conditions, but believes that when the visual fields are being more and more compromised that operation shall be essayed even if there be no definite positive shadows.

Dr. Zentmayer said that because of the obscurity of the pathogenesis of pigmentary retinitis he had Dr. Leonard make a radiograph of a recent case seen at the Polyclinic, with a view of determining whether there were any changes indicating disease in the pituitary body. It did show some enlargement of the sella turcica and the boy was consequently placed upon thyroid extract, but it is too recent to expect any results.

In a case of suspected intraorbital tumor, Dr. Manges made a radiograph which showed a depression of the roof of the orbit which he concluded was the result either of an anatomical condition or of a tumor in the anterior lobe of the brain. Later choked disk appeared in the fellow eye. An operation was done for the purpose of exenterating the orbit but no primary growth was found. There was apparently an invasion of the orbit from the brain. At the same time, the sphenoidal cells, which were also involved, were curetted by a rhinologist. Immediately after the operation, the patient developed hyperpyrexia and died within seven hours of the operation. No autopsy was obtained.

Gonorrheal Metastatic Keratitis. Dr. Irvine F. P. Turner, by invitation, presented the case of a colored man, aged 22 years, who applied to him for treatment on January 13, 1913, complaining of an inflamed and painful eye. The condition had persisted for one month and was similar to an attack six months previous. The patient had suffered from an attack of gonorrhea in June, 1912, but aside from this, he had always been in good health. Family history was negative. Upon examination of the right eye, the cornea showed numerous circumscribed areas of infiltration around the periphery and in the center a diffuse superficial punctate keratitis, grayish white in appearance. There was a slight ciliary flush, but the iris was not involved. Vision: 6/12. The von Pirquet and Wassermann reactions were negative as was also the bacteriological examination of the conjunctival secretions. Under appropriate treatment the ciliary irritation subsided but the corneal condition remained unchanged.

Dr Posey said that he had seen but two cases due to metastatic gonorrhea. The first occurred in a young man who had acquired gonorrhea shortly after the ocular inflammation appeared. Gonococci were found in the urethral secretion and also in a smear taken from the inflamed cornea. There had been no arthritic inflammation or acute conjunctival inflammation. The keratitis was vesicular in type. The second case occurred in association with an attack of conjunctivitis and iritis of metastatic gonorrheal origin in a young man, the subject of multiple arthritis, and took the form of a superficial punctate keratitis.

Dr. Posey cited the monograph of Byers and said that this author had reported nine cases of corneal disease which were probably metastatic in nature. Of these, the substantia propria of the cornea was affected in two instances; in five, the inflammation was confined to the epithelial structures. In all seven cases, the ulceration affected the central portion of the cornea. Both eyes are usually affected, though, in a series of 12 cases, 5 were unilateral. Dr. Posey expressed himself as still unconvinced of the definite value of antigonorrheal bacterins and sera in the treatment of this class of cases.

Trichiasis Cured by the Spencer-Watson Operation. Dr. William Campbell Posey exhibited a case, one of old trachoma, and as the tarsus had been but little affected, he had chosen the Spencer-Watson operation in preference to the Hotz or other operation which included an incision of the tarsus as a necessary step in the technic. Dr. Posey said that he had performed the Spencer-Watson operation in several cases and preferred the simple and ingenious transplantation of the ciliary border which it effected to any other manner of removing the irritating row of hair follicles.

Magnet Extraction of a Foreign Body from the Orbit. Dr. Posey exhibited a case in which he had successfully removed a fragment of steel from the apex of the orbit by means of the magnet. The foreign body had passed through the nasal portion of the eye, the point of entrance being 5 mm. from the limbus, that of exit some 10 mm. more posteriorly, and had lodged in the sheath of the nerve some 5 mm. behind the globe. Removal of the foreign body was attended with some difficulty, division of the internal rectus muscle being necessitated before the fragment of steel could be disengaged from Tenon's capsule. Healing had been prompt and notwithstanding the disintegration of the coats of the eye to the nasal side which had been occasioned by the passage of the foreign body, vision equaled 5/9.

Optic Atrophy Following Traumatism. Dr. Frank C. Parker presented a patient who had applied at the Wills Hospital on January 25, 1913, for treatment following the loss of vision in the left eye subsequent to an injury two months prior. While walking along the railroad he was struck by a train which threw him heavily upon his right hip, at the same time striking his shoulder and head at the outer, upper orbital rim with such force that he was rendered unconscious. This comatose state lasted three days. In the meantime, six stitches were taken in the skin covering the orbital injury.

Upon regaining consciousness at the termination of three days, the patient could not detect the light of a candle held directly before his left eye. Frequent tests for light perception were made by the physician in charge but not until after the fourth day following the injury could the patient detect light. Vision then gradually improved until two weeks later objects could be dimly seen and according to the patient's statements, he thinks there has been continued improvement.

At the time of the injury, there was bleeding at the ears, nose and mouth. External examination showed a well-marked scar over the upper, outer orbital rim. The corneas are clear, the pupils 2½ mm. in size, the right eye reacting promptly to light, accommodation and convergence, while the pupillary reaction in the left eye is absent save for a consensual reaction, which is prompt. Ocular movements in all directions are good.

Ophthalmoscopic examination showed the right fundus to be normal, but in the left there was a well-defined simple optic atrophy. The visual fields showed a marked contraction in the left eye.

From the nature of the injury, with its associated bleeding from the ears, nose and mouth, and the accompanying unconsciousness, there was present undoubtedly a fracture of the skull. As the consensual reaction of the pupil of the affected eye was not interfered with, the lesion causing pressure upon the optic nerve must necessarily have been anterior to the decussation of the fibers in the chiasm. Consequently, it would be safe to assume as the causative factor in the production of this optic atrophy a fracture of the orbital walls near the apex, producing direct pressure upon the nerve at the optic foramen, or a hemorrhage or extravasation or both. From the fact that vision improved somewhat the absorption of an extravasation or hemorrhage would account for this, but as the nerve shows a decided atrophy, there would be every reason to assume pressure upon the optic nerve by a fragment of bone as it passes through the optic foramen.

Dr. Posey drew attention to the necessity of conservation in prognosis after monocular loss of vision following head injuries, as in many cases, such as the one just cited, there was no actual break in the continuity of the optic nerve fibers, their function being depressed only for a time in consequence of the pressure of blood or inflammatory exudate. Sudden and complete blindness usually indicates severance of the nerve, loss of sight coming on gradually and some time after the accident being the more favorable condition.

Dr. Zentmayer said that many theories had been advanced to explain the frequency with which periorbital blows were followed by optic atrophy, but about 20 years ago a series of experiments were made which showed that the resultant of the forces was in a line that led to fracture at the foramen opticum. Dr. Zentmayer asked Dr. Pancoast whether a radiograph would be able to show this in a living subject.

Meeting of April 7, Dr. S. Lewis Ziegler, Chairman.

Tuberculous Keratitis. Dr. Samuel D. Risley presented two cases which had proved rebellious to all the usual methods of treatment at his own and other clinics. He called attention to the fact that in each case the pupils had not dilated under repeated instillations of atropin; that there had been excessive photophobia notwithstanding the fact that the corneal epithelium was intact. There was deep ciliary injection and tenderness to palpation which he regarded as suggesting a general uveal disease. There were also several small, gray, nearly circular islets or nests of infection, showing a dense center and a fainter gray border or halo; these were apparently situated on the membrane of Descemet or between it and the stroma of the cornea. This peculiar distribution together with general ill health of the patients suggested to him a probable tubercular infection. The von Pirquet test was positive in both, in one case, the reaction being so marked that it suggested the early stage of a vaccination and was accompanied by a rise of temperature. There was no pulmonary involvement demonstrable. Tuberculin injections were then instituted, resulting in a rapid and marked improvement in the ocular conditions.

Dr. Posey thought Dr. Risley's case was typical of tuberculous keratitis. He said that in his experience the projection of a tongue-like area of yellowish-white infiltrate from the limbus into the interstitial lamellae of the cornea towards its center and the occurrence of discreet yellowish white oval areas, which appear caseous and avascular, is very significant of tubercular keratitis, while he had observed the deposition of small rounded areas resembling drops of cold mutton fat upon the posterior surface of the cornea or in the lamellae of the cornea, secondary to tubercle of the iris and of the deeper parts of the eye. According to Michel, the typical picture of tuberculous interstitial keratitis is almost always preceded by the formation of tuberculous nodules in the pectinate ligament, the corneal involvement appearing secondarily. Bach, however, is of the opinion that tuberculous nodules may be found primarily in the periphery of the cornea.

The treatment of tuberculous keratitis is, as might be supposed, often unsatisfactory. Expectant measures are usually the safest and wisest, though the employment of tuberculin has often been of undoubted value. The observations of Gamble and Brown of Chicago; of Von Hippel of Gottingen, and of many others, attest this. Von Hippel insists upon the propriety of small doses (a beginning one of 1-500 milligram) as in a few cases 1-50 milligram has produced marked local reaction. In his opinion, subconjunctival injections should be discountenanced, and old tuberculin, to confirm the diagnosis before beginning the treatment with tuberculin T. R., is recommended. Under the tuberculin treatment, Von Hippel has found that the general health of the patients improved in almost all cases, enlargement of the spleen and lymph glands disappearing, and the body weight increasing.

Dr. Burton Chance said that he had been impressed by the remark that the patients had shown decided improvement in their general health almost from the very start in the courses of the tuberculin treatment. He believes it has been the experience of all ophthalmologists who have administered tuberculin sera, to find long before the ocular symptoms had begun to regress that the patients gained in weight and showed many evidences of improved nutrition.

He recalled a case of his own in a lady who had had inflamed eyes from her early childhood, to such an extent that the cornea of one eye is entirely leukomatous while the other eye shows several nebulae. At the time she came under his observation, about two years ago, there were symptoms of profound anemia and emaciation. It was the opinion of others concerned in her case that there were no signs of pulmonary disease, and he, himself, believed that the patient's glandular system chiefly was involved. During the first course of tuberculin injections, not only were the corneal symptoms allayed, though not cured, but enlarged cervical and submaxillary glands became softer and reduced in size while the patient's weight rapidly increased.

In the discussion on the results of tuberculin in chronic ambulatory tuberculosis, at the College of Physicians, toward the end of last year, the remarks of the chairman were of particular interest. Dr. de Schweinitz said while the general practitioner could not accord this form of treatment the place it was hoped at first it might attain, the ophthalmologists could attest to the great value of this therapeutic agent in tuberculous lesions of the eye because it had been amply demonstrated that such lesions have yielded more readily to tuberculin than they had under other and older measures. Therefore, the ophthalmologists have the opportunity to render a valuable contribution to the subject of tuberculosis, and this contribution ought to have the respect of those occupied in this very important branch of medicine.

Some Interesting Cataract Cases. Dr. Burton Chance presented three cases of congenital cataract which have been under observation in Dr. Schwenk's clinic in the past month. The first was of a vigorous man of 22 years in whose left lens were fine punctate opacities in the anterior cortex and in the posterior cortex at the pole was a rather large opacity, shell-shaped, within the serrated edges of which were well-defined granules. The vitreous was perfectly clear and the fundus healthy. The visual acuity equaled 6/22 by special tests, but in practical experience, the sight was worse because the opacity obscured the pupillary space. The sight had been poor for a long time yet without any known cause. He had been told several years ago that he had a cataract in his left eye. For three or four years, the man has been a pugilist but he declared his sight was poor prior to his boxing bouts.

The second case was that of a young Swiss cloth-finisher of 23, who had been myopic all his life but had recently lost his sight so that he could not work. His eyes were widely divergent. There was, of course, perception and projection, but it was not possible to obtain the exact visual acuity. In the posterior cortex of the right lens was a well-marked stellate opacity, extending far out in all diameters through the points of which the usually well-preserved fundus, for so great a degree of myopia, could be seen. The left lens contained more diffused opacities, which were less dense than in the right. The special point about this case was the development of cataracts in what might be considered to be an intense or malignant myopia. It is Dr. Schwenk's intention to remove the lenses with the prospect of reducing the myopia.

The third case presented in each eye a small dense disk in the posterior cortex directly at the axis; that of the right was almost the size of a pin head, and that of the left about 4 mm. The smaller was quite dense;

the other had a granular edge or border. In the anterior cortices were numerous fine vacuoles. The eyes in other respects were healthy. V.: R., 6/45; L., 4/45. The man is a baker, aged 40 years. He believes his sight was good until two years ago, when on recovering from heat prostration he noticed a marked reduction in each eye. He began to use glasses only a few months ago. In complete mydriasis the visual acuity is almost normal.

Dr. Risley said that posterior capsular opacities of the lens were one of the most annoying problems for the ophthalmic surgeon. In his own practice, he had not seen any satisfactory improvement in vision from iridectomy for visual purposes. His procedure of late years had been a preliminary iridectomy to be followed in due time by a vertical slit in the capsule without cutting into the lens cortex. Two days later the lens was extracted. He had pursued this method in six cases during the past year at the Wills Hospital and one in private practice. In only one of these was there any reason to think that the delay of forty-eight hours between the capsulotomy and extraction was too long because of swelling of the lens cortex. In one instance, instead of extraction after the usual corneal section the soft lens was evacuated by expression, the section being made by a keratome, the point of which was carried into the substance of the lens, then slowly withdrawn and slight pressure backward made with the blade, and the soft masses of cortex allowed to escape over the inclined front surface of the keratome. This procedure of course left the opaque posterior capsule undisturbed and required a subsequent capsulotomy.

He thought, however, that any method for the management of posterior polar or capsular cataracts was incomplete which left out of consideration the fact that they were the result of more or less serious uveal disease often associated with systemic affections or as in one of the cases presented at this meeting, that of the blacksmith due to exposure to heat or light at the furnace or forge. These conditions should be subjected to treatment before any operative procedure is undertaken.

Dr. McCluney Radcliffe reported a case of congenital posterior capsular cataract with a triangular-shaped opacity in each eye, the centers of the triangles being comparatively clear. The patient had compound hypermetropic astigmatism and with proper correction his vision was 20/20 partly. He is a college student and is able to do his work with comparative comfort. His father is said to have congenital hexagonal cataracts with 4/7 normal vision.

Dr. George S. Crampton referred to a case of triangular congenital cataract which he exhibited elsewhere two years ago. It was afterwards discovered that this nine-year old boy was the son of deaf mutes who were not blood relatives. In the center of each lens, there was a circular, filmlike cataract about 6 mm. in diameter, composed apparently of very minute dots. These formed a symmetrical triangle, base up, within the circular area, the stippling becoming so attenuated towards the center that through it practically 6/6 vision was obtained with glasses to correct the slight amount of compound hyperopic astigmatism. The uncorrected vision was 6/9 and 6/12 in right and left eye respectively. The eyes of his mother and sister were free from cataracts, and all other members of the family were said to have good eyes, although as they lived at a distance they could not be examined.

Spontaneous Absorption of a Cataractous Lens. Dr. William Zentmayer presented the case of a male, aged 40 years, who had been operated upon by Dr. Zentmayer, three years ago, for cataract, in the right eye. At that time, there was a hypermature cataract in the left eye. This was not interfered with because the eye was strongly convergent and light projection was faulty. In the eye that had been operated upon a vision of 6/12 had been secured. He states that the sight of the left eye has been improved of late, whereas that of the right eye has failed. He recalls having received a slight blow on the left brow just previous to the time when improvement began in the left eye. In the right eye, there is a regular coloboma, clear pupil and a detachment of the retina below. In the left eye, there is an apron of capsule floating in the upper half of the pupillary space. The remainder of the pupil is clear. No trace of the lens. Vision in each eye equals counting fingers at about 1 m.

J. Milton Griscom, Secretary.

PHILADELPHIA LARYNGOLOGICAL SOCIETY.

Stated meeting, May 20, College of Physicians, Dr. Ross Hall Skillern in the Chair.

Anatomy of the Nose, Naso-Pharynx and the Pharynx. Dr. A. Hewson talked on this subject and gave a demonstration of actual specimens and lantern slides.

Local Anesthesia in Submucous Resection of Nasal Septum. Dr. G. W. Mackenzie read a paper in which he described his technic by use of 20 per cent. solution of cocain, and then injection of Schleich's solution. Dr. Mackenzie uses one-inch gauze strips for approximating denuded surfaces and for control of hemorrhage, instead of use of cotton splints, and advocates that use of cotton in nasal surgery should be abandoned.

Dr. Herbert M. Goddard, in discussing: It has been my pleasure to witness several of Dr. Mackenzie's operations on nasal septum. I have found that I have been able to get very good approximation of denuded surfaces by use of Simpson's splints, and the day following operation remove a portion of splint on each side. This allows patient greater freedom of breathing. In case of persistent bleeding I have found that strips of one-inch gauze control hemorrhage better. Two very important rules for beginners to remember are to be sure that primary incision is through to cartilage and to make incision well anterior to deformity.

Dr. E. B. Gleason: Packing tightly with long strips of gauze, I believe to be generally cause of sepsis. Whenever I am obliged to pack nose, I always feel that my patient is in considerable danger of at least a slight sepsis and some soreness of pharynx and tonsillar region. I remember reading an article in *Laryngoscope* one or two years ago which reported a case, after a tonsillectomy, of phlebitis of internal jugular, infection extending up into lateral sinus, and forward into cavernous sinus. One eye was lost, and ultimate recovery with some sight in other eye. Good approximation can be obtained by use of Simpson's splints. As regards method of injection of Schleich's solution, I can not help but think that this method is open to very serious objections. Here we have many holes, and when mucous membrane is stretched in denuding, there is danger of instrument slipping through.

I think it would be a good idea if we would establish a standard method of cocainization. I would suggest first a two to four per cent. cocain solution locally applied, then packing with 1 to 1,000 adrenalin solution, then rubbing with saturated cocain solution, adrenalin preventing absorption of a large amount of cocain. I recall one of my cases of cocain poisoning where patient lost consciousness. However, symptoms somewhat subsided after use of strychnin. Practice on cadaver is of little use on account of ease of separation of the mucoperichondrium. For separation of adhesions, Carter of New York has invented a curet and raspatory, which I have found to be of great service.

Dr. R. F. Ridpath: Injection of Schleich's solution has advantages particularly in those cases where there are angular deflections, but in majority of cases it is not essential. For packing Simpson splint is to be preferred to gauze packing. It is easier of introduction, and removal, and there is rarely postoperative bleeding. I do not believe that we treat this operation with as much importance as is warranted, and in case any other operation is needed on nose, it should be done before the submucous resection, and not at same time.

Dr. W. A. Hitschler reported a case of perforation in removing cartilage with Ballinger knife. Cartilage was kept in normal salt solution until completion of operation, and then placed between layers, completely closing perforation. On eighth day a redness appeared on edge of cartilage, and next day it was covered with crusts. Later perforation was revealed, although cartilage did not come away, evidently it must have moved upwards.

Dr. Mackenzie: Infection after submucous resection of septum is favored under certain conditions as follows: (a) An acute coryza, a fact which can readily be understood. (b) An acute infection of one of sinuses is very prone to favor an infection of a wound of septum. (c) Infection of adenoids or tonsils. A patient need not manifest an acute infection of these glands, for instance let there be any old pathologic condition, though temporarily quiescent, effect of an operation on septum with incident packing of nose may be sufficient cause to awaken an acute pathologic condition in them and from this focus an infection may readily spread to a wound of septum. (d) Undue injury or lacerations of septum favors infection. (e) The combining with submucous resection, one or more operations upon turbinates. (f) A pack in nose, but only when combined with one or more of conditions previously mentioned. A gauze pack in nose, is far safer than a cotton or other more or less impervious dressings. For instance, take a piece of cotton and insert it into canal of a running ear for some time, when you come to remove it you will observe that side presented inwardly is wet and caked with discharge, while side externally exposed is dry; on other hand, if you insert a piece of gauze, when you come to remove it you will find it more or less uniformly wet with discharge. Cotton has behaved like a cork, while gauze acts as a wick.

Next, as to application of adhesive strip to hold dressings in place, it is purely surgical, and is practiced by surgeons in general, no matter upon which part of anatomy an operation has been performed. Personally I came to use adhesive strips quite independently. A patient upon whom I had operated on septum presented himself on second day, with all dressings removed. Immediately I determined to fix dressings in such a manner as to deter any patient upon whom I operated doing this same thing. Idea appealed to other surgeons who saw me do it, and they adopted it also.

I have never had any serious infection following a tear of mucous membrane, for I have patient blow nose before packing, which replaces flap into its normal position. Then nose is packed in a manner to hold flap in place until healing takes place.

Toxic effect of cocain is reduced if patient's stomach is full. We are all aware of fact that toxic substances produce a greater degree of toxicity when stomach is empty than when full. You will recall the effects of alcohol and tobacco on an empty stomach. As an antidote to cocain poisoning there are probably none better than nitroglycerin and amyl nitrate to which I have already referred.

The amount of cocain absorbed from Schleich's solution injected can not exceed a quarter of a grain. Whole 100 c.c. of solution contains but a grain and a half. Not more than one sixth of solution is used, therefore not more than one quarter of grain of cocain.

CHARLES A. O'REILLY, Secretary.

COUNTY SOCIETY REPORTS.

Reports should be necessarily brief presentations of scientific facts and professional news. To insure publication these should be received within fifteen days from date of meeting, although it is sometimes necessary to hold over some of them for want of room.

FIFTH CENSORIAL DISTRICT MEETING.

The members of the Fifth Censorial District, consisting of Adams, Cumberland, Franklin, Fulton, and York Counties, held their eighth annual meeting at Gettysburg, July 24. The attendance was not so great as on some former occasions.

The meeting was called to order at 11 A.M., by the president, Dr. H. A. Spangler of Carlisle. Dr. J. P. Dalbey, president of the Adams County Medical Society, delivered the address of welcome. This was followed by the annual address, by President Spangler. The censors gave reports of progress and harmony in their respective societies.

Dr. J. B. Amberson gave a talk on "The Good of the Order," which brought forth laughter and applause. Dr. E. W. Meisenhelter, Sr., who visited most places of interest and scenery in the Golden Gate state, gave an eloquent descriptive talk on his trip to California, which was very much appreciated by all present.

The address of the day was delivered by Dr. F. X. Dercum of Philadelphia. On motion, it was ordered that his address be sent for publication in the JOURNAL.

The Adams County Society deserves much praise for the manner in which all things were arranged. Our ladies were very much pleased by the courteous attention shown them by the Adams County ladies. They were taken over the battlefield in automobiles and served with light lunch at the Springs Hotel; later they joined the banquet at the Hotel Gettysburg, where ninety guests were seated. Dr. A. A. Long presided. Toasts were given by Drs. Amberson, G. E. Holtzapple, Dercum, Comroe, Alleman and Gable. The meeting and the banquet were considered a grand success.

The meeting in 1914 will be held at York. We hope to make this a banner meeting in point of attendance.

C. W. EISENHOWER, Secretary.

BERKS—JUNE.

The meeting of the Berks County Medical Society was held June 10, in the new medical building with thirty members and one guest present.

Dr. R. Alexander of the Wernersville State Asylum presented a case of polycythemia in an insane patient. The patient showed chronic cyanosis with emphysema and arteriosclerosis. The conjunctivae were injected and a pterygium was present on each eye. The pharynx was congested and superficial veins in general, dilated. Urine showed the presence of albumin, leukocytes and hyaline casts. Blood pressure was 180. Blood count showed 6,275,000 erythrocytes. Higher counts than this had been made. The leukocyte count was 8,900. Hemoglobin 110 per cent. The patient's only complaint was at times, of slight dizziness.

Dr. G. W. Overholser on "Purpura Hemorrhagica," gave a report of a case of typhoid complicated by purpura. A boy, fourteen years of age, fell and hurt himself, and two weeks later had typhoid fever, followed by bleeding from nose, ears, mouth and later from bowel. There were a large number of purpuric spots over abdomen, then urine became bloody. Five grain doses of calcium chlorid every three hours were prescribed and later changed to tincture of cinnamon. The child recovered.

Dr. W. S. Bertolet reported a case of pregnancy complicated by purpura. This patient, when six months pregnant, had a temperature of 104°, rapid pulse, eruption under skin upon face, limbs and body, slight epistaxis, fever and chills lasting three or four hours, then disappearing temporarily. Twelve to fifteen grains of quinin per day were prescribed. After six weeks the purpuric spots disappeared. The proper treatment for purpura hemorrhagica is the use of serum from a healthy animal.

Dr. J. W. Kauffman spoke on "Typhoid Complicated by Purpura," in which he quoted Osler: "That obscure and interesting manifestation of which we know so much and at the same time so little." He also gave the following statistics: In the Massachusetts General Hospital there were only 65 cases of purpura among 155,884 patients; in Johns Hopkins Hospital 41 cases among 18,594 patients; in Hamburg General Hospital 73 cases among 100,000 patients; in Mary Magdalene Hospital at St. Petersburg 13 cases among 82,000 patients; in London Hospital 200 cases among 63,834 patients.

These papers were discussed by Drs. Frankhauser, Cleaver and Hetrich. Dr. Hetrich said that in twenty-eight years of practice he had only six cases of purpura.

Clara Shetter-Keiser, Reporter.

BERKS-LANCASTER OUTING—July.

The annual outing of the Berks County Medical Society was held in conjunction with the Lancaster County Medical Society at the Cocalico Hotel, Ephrata, July 8. There were about 250 present, 194 of whom were physicians. A fine chicken and waffle dinner was enjoyed, after which the ladies were taken to visit the cloister that has been standing over one hundred years. On invitation President Millard of Lancaster County presided, and President Shoemaker of Berks County delivered the opening address. Dr. Shoemaker gave a short account of the historical connection between the two societies and their relation to the organization of the state medical society, for it was the Lancaster County Society that invited Dr. Isaac Hiester of Reading to send delegates to the first meeting of the state medical society, which was held in Lancaster, April 11, 1848.

Dr. W. S. Bertolet spoke on the "Tree of Knowledge," in part as follows: It was rooted in ancient Egypt and has grown to a great size in spite of ignorance and superstition. Not until we become students of medicine do we begin to form any conception of the tree. After finishing our college and hospital training there remain vast, unexplored fields. Yet it appears that the breadth of knowledge furnished in modern schools of medicine is sufficient to lead the young men to just conclusions. The man fresh from the hospital may be a better doctor at this stage than at any other unless he continue to grow. He must ask himself with all the earnestness of a novice at his altar vigil, "Am I prepared to know?" for the long day of the charlatan and the quack is drawing at last to its close. The eyes of humanity are turning slowly but surely toward the man who knows.

Some time at the end of a hard day's work a patient may come to you complaining of a lamentable depression of spirits, loss of appetite, slight headache, but with symptoms no graver than a dull eye and a yellowish skin and tongue. The subjective troubles are disproportionate to the objective of his complaint, and perhaps justifiably you will send him away happy in the belief that he is a bit "liverish." But are you going to allow "liverish" to satisfy yourself? Of course not, you say, yet very soon it will be a real temptation. Why bother your tired faculties to find an exact mental picture of the man's actual condition? Nevertheless unless you do this you will be treating him with less respect than your old bicycle in the coach house which, if it should creak, wheeze or begin to run less smoothly, you would tell yourself was "wheelish" and drop oil at random in its most convenient aperture.

You will probably say that to cultivate this habit of forming proper mental pictures one must be at least a chemist, a physicist, a pathologist, a bacteriologist, etc. And how can a single human being contain so many persons? Upon no more than one branch of the tree of healing will it be given you to climb a little farther than your fellows, but you can keep your eye on them. No one man can become proficient in every branch of medicine, but county societies can take up the work and the members give their patients good service. It is by the training and vivifying of the sense of curiosity by modern knowledge that great discoveries and inventions are made, and it is most important that the physician keep this sense alive, for by it he can do much for his patient and the profession. Physicians must keep their bodies and minds in first class condition, read journals, see and study the achievements of the leaders of the profession. It is the doctor's most solemn duty to know, and to keep in touch with the means that enable him to reap the fruits of the ever-rapidly growing tree of knowledge.

Dr. John B. Deaver of Philadelphia addressed the societies on "Preventive Surgery." This, though a great modern movement, can be traced to the beginning of history. There has been some difficulty in overcoming the inertia of the masses but at present it appears to be yielding to the efforts of science which has demonstrated the causes of disease and their modes of transmission. While the discoveries of men like Jenner, Koch and Pasteur have been so great as to be almost bewildering, yet the results obtained in Cuba and the Canal Zone in eradicating typhoid, malaria and yellow fever have been epoch-making.

A great boon has been conferred upon humanity by modern aseptic surgery, yet this has not accomplished the one-hundredth part it has to offer because surgery has so often been resorted to only at the eleventh hour merely as a means to save life.

In malignant growths alone there are 85,000 cases per year. The stomach is the most frequent seat of cancer, due to the large variety of chemical and mechanical salts ingested. Indigestion is regarded as a protest of the stomach and should not be neglected. Seventy-five per cent. of cancers begin as chronic indigestion, which calls for knowledge of the exact conditions. Pyloric ulcers are more common than usually supposed. Cancer of the gall bladder is usually preceded by gallstones; the pancreas is affected by diseases of the gall bladder. Cancers of the genitalia and mammary glands, so frequent, usually exist two years before surgical interference is sought. Pigmented moles have a tendency to become malignant. Remember that cancer is on the increase, is due to the irritation of the organ and should not be viewed with apathy; and that deaths, often supposed to be due to surgery, are due to a lack of it and to delayed surgery.

We insure our lives, our houses and automobiles against death and destruction, but how can we insure our lives against cancer? There is a faith that heals, and one that does not heal. In the distant future the wise will employ physicians to safeguard their health as some oriental nations have been doing. As a civilized nation we should have a national department of health.

Dr. T. B. Appel of Lancaster, delegate from the state society to the A. M. A., reported the business that occupied the Minneapolis session.

After a delightful time all returned home.

Clara Shetter-Keiser, Reporter.

BRADFORD—June.

The regular monthly meeting of the Bradford County Medical Society was held at the Canton Commercial Club, Tuesday, June 3, 1913, and was called to order at 1:45 p.m. Dr. G. H. B. Terry, Wyalusing, was elected president *pro tem.* Nineteen members were present; also the following by invitation: Dr. C. W. Youngman, Williamsport; Past Assistant Surgeon E. U. Reed, U.S.N.; Drs. Molyneux, Allen, Swartz and Lundblad, Sayre, and Mr. Derrah, a Canton medical student.

The censors having reported favorably upon the application for membership of Dr. George W. Hawk, Sayre, he was elected a member.

The committee appointed at the May meeting to draft resolutions on the death of our late member, Dr. E. N. Shepard, presented its report which was adopted.

Dr. H. C. Woolley, Canton, read a paper on "The Modern Care of the Insane" in which he emphasized the little interest taken in insane patients by many general practitioners, and the importance of early treatment of mental disturbances before the individual has passed the border line. Attention was called to the improved conditions in hospitals for the insane and of the improved methods of treatment as contrasted with those of twenty years ago. Prophylactic measures should be called to the attention of the family and friends and also of the individual. Where home surroundings are unpleasant, unsanitary and harmful they should be corrected or the patient placed under other and more favorable conditions. The sexual functions should be explained by the proper person at the proper time and attention called to the results of abuse of this function. Stimulation of healthy thoughts and interest in the young would evert many cases of mental disease. So far as can be determined 24 per cent. of all cases of insanity are due to alcoholic excesses. The management in hospitals must be largely individual. Pleasant and sanitary surroundings, proper diet and looking after the eliminative functions are always important. Hydrotherapy, exercise in the open air, together with necessary medical and surgical treatment must not be neglected. Healthy amusements, including music and dancing, are beneficial. The paper by Dr. Woolley was discussed by Drs. Rockwell, Reed, Youngman, Barker, Phillips and Stevens.

Dr. C. W. Youngman, Williamsport, read a paper on "The Specific Treatment of Tuberculosis with Special Reference to Tuberculin." All so-called specific treatments, with the exception of tuberculin, after many trials have been found worthless. During past three years he had treated eighty-three cases of tuberculosis of lungs by the method recommended by Dr. Samuel G. Dixon and with the extract furnished by the Pennsylvania Department of Health, the average time of treatment being seven months. The patients were those who would not go to a sanatorium and whose home conditions were in most cases decidedly unfavorable; many of them continued their work throughout the treatment. Forty died and forty-three are living, most of them practically cured. The paper by Dr. Youngman was discussed by Drs. Barker, Charles and E. U. Reed.

Dr. George E. Boyer, Troy, read a paper on "My Experience with Vaccines." Four cases of acute anterior urethritis of two or three days' duration were given a hypodermic injection of 50,000,000 Neisser's mixed bacterins, followed on the fourth day by 100,000,000, and on the sixth day by 200,000,000, the fourth injection given four days later and patients discharged. Two and a half grains of salol were given by the mouth four times daily during the treatment. All patients showed reaction after the third injection. There was improvement after the second and two days after the third all local symptoms had disappeared. No shreds were presented by the glass test and no gonococci were found by the microscope. No complications. Seven cases of chronic urethritis of two to six months' duration, with complications of posterior urethra, bladder and testicles, due probably to urethral injections, were treated by salol and bacterins as in cases previously cited. Patients were considered cured after the fourth injection, but they reported every week and all are free from specific symptoms. Two cases of gonorrhœal arthritis were treated like cases previously reported and made good recovery.

During the Troy epidemic of typhoid he vaccinated sixty-seven patients, in one third of whom there was marked reaction lasting about three days. The others reacted only after the third injection. One patient had suppression of urine after the first injection and it was three days before the kidneys resumed the normal function. The same suppression occurred after the second injection. Third injection not given. The usual contrary indications, pregnancy, menses, temperature, etc., were ignored, and no untoward effects were observed. Vaccine was probably of no therapeutic benefit in the treatment of typhoid. A nurse came down with typhoid two weeks after receiving the last injection.

Attempts to use phylacogen for rheumatism were discontinued as the patients refused to continue the severe treatment.

He had used pituitrin, which is not in any sense a bacterin, in several cases of labor. One c.c. of the serum was used hypodermically and was followed by strong and full pulse, strong contractions and satisfactory delivery without unpleasant complications.

The paper of Dr. Boyer was discussed by Surgeon Reed, who for the past two years has been stationed at the Samoan Islands. Men returning from liberty answer "Yes" or "No." If they answer "Yes" they receive a prophylactic wash of bichlorid and an injection of a silver salt. Experience in the Navy with the use of typhoid vaccine is decidedly favorable. He thinks that if all the people in Troy had received antityphoid vaccine one year before the time of the typhoid epidemic that there would have been no epidemic. Surgeon Reed also gave an interesting talk on the diseases of Samoa and their medical and surgical treatment. C. L. Stevens, Secretary.

CLARION—July.

The Clarion County Medical Society met at Parker City, July 22, with an unusually large attendance. The afternoon meeting convened at two o'clock, at which the routine business was transacted. The Library Commission, appointed at the last meeting, reported that the medical library was located in the Foxburg Free Library and asked for donations of books, pamphlets, reports and all kinds of medical literature. The commission also reported a set of rules governing the use of books, etc., which was unanimously adopted.

At 5 P.M. a complimentary dinner was given by the society at the Parker House in honor of Dr. A. M. Hoover, the oldest physician of Parker City. A beautiful loving cup was presented him and speeches made by several of his friends and admirers.

At 8 P.M. an open meeting was held in the G. A. R. hall. The subject under discussion was "Save the Babies," to which a large audience of Parker City's best people listened. Addresses were made by Drs. Phillips, Meals, Brown, Hoover and Walker. On the whole, the meeting was the most successful that the society has held for months.

R. A. WALKER, Reporter.

DAUPHIN—JUNE.

Dauphin County Medical Society met at the Academy of Medicine Building, June 3, a good number of the members being present. After the usual business session, Dr. Jonathan Wainwright of Scranton, spoke on the subject, "Cancer." Among many good points brought out was the importance of an early diagnosis of cancer, not waiting for cachexia to clinch the diagnosis nor thinking that cancer can not occur until late in life. He also pointed out the importance of the use of the knife in treatment, if we wish to have permanent benefit. The paper was discussed by several of the members.

Following the meeting, refreshments were served, and professional topics were dropped for those of a social nature.

NORMAN B. SHEPLER, Reporter.

DELAWARE—JUNE.

The Delaware County Medical Society met, June 12, at the County Home, Lima. The physicians went in automobiles and the bracing air made this part of the day's outing a feature. Dr. Fred Evans presided with thirty-two members present, and the meeting proved interesting throughout. Dr. A. V. B. Orr read a paper on "Empyema," and the discussion was opened by Dr. S. R. Crothers. At the conclusion of the scientific session dinner was served under the direction of Steward and Mrs. Kerlin.

W. E. EGBERT, Reporter.

ELK—JUNE.

The Elk County Medical Society met at Johnsonburg, June 12, with a fair attendance. Dr. W. H. Bush read a paper on the "Use of Pituitrin in Obstetrics," reporting several cases. He has had very pleasing results, as it lessened the after-pains, lessened chances of infection, and left the woman feeling strong. He thought its use was indicated in cases of low blood pressure, inevitable abortion, preliminary to Cesarean section, and following abdominal operations. He has had his best results when pituitrin was given at the end of the first stage of labor, when dilatation was complete.

Dr. Shaw in discussing said that in a limited number of cases he had not found that it made any difference in the course of labor, and questioned the propriety of its use to raise blood pressure in abdominal cases. He inquired why pituitrin selected nine months as the time to exert its most usefulness. If pituitrin stimulates muscular contractions in the uterus at nine months, why does it not do the same thing at five, six or seven, when you have practically the same conditions, dilatation, etc. In his use of it at full term and premature and abortion cases, he had not had results. So, while not denying its usefulness, he said he had found that it did not stand up for the claims put out for it by the manufacturers.

Dr. Heilman had had no personal experience with it, but thought it had a limited sphere of usefulness, and as it had no bad effects should be used under the conditions mentioned.

Dr. McAllister called attention to the fact that it behooved the physician to be ever on the alert, that the market was being flooded with culture and glandular products, and to use only what had been proved safe and reliable, and not take up every new fad that came along; but as long as pituitrin had not proved detrimental, it would be well, to use it when indicated.

Dr. Logan had not had any results in a limited number of cases, but carried it in his bag and would use it when indicated. The longer he lived the more prone he was not to interfere without good reason. He does not have nearly so many forceps cases now as he used to, and in recent cases in which he had used pituitrin he had finally delivered with forceps.

S. G. LOGAN, Reporter.

HUNTINGDON—JUNE.

The Huntingdon County Medical Society met in the Huntingdon Club Rooms, June 12, at 1:30 P.M., with President Schum in the chair and twenty members present. A new constitution and by-laws were adopted.

Dr. Charles Campbell read a paper on "Management of Shock," in which he classified the different causative factors and treatment, laying special stress on the preliminary use of eserin salicylate, the benefit of a large dose of strychnin. In the discussion the value of morphin was brought out, but President Schum was of the opinion that to use any cardiac stimulants we must first exclude the presence of hemorrhage. The use of heat, automatic pulmotor, and stretching of the sphincter ani were suggested in the paper and discussion.

Dr. R. H. Moore's paper on "Some Points of Interest in Medical History" dealt mainly with the heroes of medical missionary work; namely, Drs. Livingstone, Grenfell and others, who have sacrificed their lives to the needy fields. This paper was ably discussed.

J. M. Keichline, Jr., Reporter.

LACKAWANNA—April, May.

At the meeting of the Lackawanna County Medical Society, April 1, Dr. John J. Sullivan, Jr., presented a report of interesting ear, nose and throat cases seen in his service at the West Side Hospital. After enumerating the cases, he reported fully some of his mastoid and frontal sinus cases and then took up diagnosis and differential diagnosis from standpoint of general practitioner, the many, and often complicated, conditions found about the ear, nose, and throat. The matter of tonsillectomy was discussed and among other good points brought out was the fact that we do not carefully examine our patients after operation and that often a small particle of tonsil is left from which, in time, sufficient tonsillar tissue is regenerated to make it appear that an operation had never been performed. More careful examination of the field after operation, particularly with forced illumination, will prevent recurrences of this character.

This was discussed by Drs. Roos, Huber, Corser and Sullivan.

On April 8, the society had the pleasure of listening to Dr. James K. Young of Philadelphia on "Recent Advances in Orthopedic Surgery." He brought to us in a condensed form all of the recent achievements in this important branch of medicine. His remarks on the displacement of the sacroiliac synchondrosis was of more than passing interest because of its daily application to a large number of cases seen by the general practitioner.

At the regular monthly business meeting, April 15, much business was transacted. The society voted to expend any part of $100 that is necessary to procure a lantern and projectoscope for use in the society rooms; a committee was appointed and empowered to act. It was unanimously agreed that the society approve the action of the city council in appropriating $25,000 to be used in the construction of a hospital for the care of contagious diseases.

April 19, Dr. Howard A. Kelly of Baltimore paid Scranton a visit and a complimentary dinner was given in his honor at the Hotel Jermyn by the Lackawanna County Medical Society, forty-five members participating. After the dinner Dr. Kelly talked on the "Medical and Surgical Uses of Radium." After taking up the physical and chemical properties of radium he took up the physiological action as it is understood at the present, citing many cases that would tend to show its beneficial action in cancerous conditions that have heretofore been unyielding to any mode of treatment.

On May 27, Dr. A. W. Smith read a paper, "Pelvic and Abdominal Tumors," dealing with tumors of the ovaries and uterus and excluding malignant disease. He called attention to the fact that large abdominal tumors are not as frequently seen as formerly, owing to the more frequent and skilled examination of women, basing his authority on the fact that, in his experience of over two thousand abdominal operations performed upon women for all causes, only forty such tumors were found. Of the forty-one cases forming the basis for his paper, twelve were tumors of the uterus and twenty-nine of the ovary, showing that in this series ovarian tumors are nearly two and a half times as common as uterine tumors. The reason for this he attributes to the fact that fibroid tumors cause symptoms which lead the patient to consult the physician much earlier and consequently operation is advised and accepted before growths of any great size are formed.

The pathology of these tumors was dwelt upon at some length and he called particular attention to the fact that many ovarian tumors frequently cause no symptoms referable directly to themselves and are only found upon examination. In many patients the first symptom noticed is an enlargement of the abdomen and when the physician is consulted it becomes a question of differential diagnosis and correct diagnosis may be arrived at only after a process of exclusion. Pregnancy is frequently confounded with ovarian tumors and where a question of this character exists it is often advisable to wait for the positive sign, the fetal heart sound.

H. W. Albertson, Reporter.

LANCASTER—June.

The Lancaster City and County Medical Society met, June 5, with President Miller and fifty-seven members present.

Dr. David Riesman of Philadelphia read a paper on "The Diagnostic Problems of the Upper Abdomen." In order to be at all familiar with diseases in this region an exact knowledge of the anatomy of the parts is necessary. A typical attack of gallstone colic, with the sharp colicky pain just below the costal arch on the right side and radiating to the right shoulder, jaundice, nausea and vomiting, permits of no error in diagnosis, but it is the atypical cases that tax one. In a goodly number of cases the pain is in the epigastrium and while there are some gaseous eructations, nausea and vomiting are absent. Repeated attacks of this picture lead to false diagnosis of chronic indigestion, or nervous dyspepsia. If pain is centered and nocturnal, if the appetite is variable, and especially if the attacks occur during a pregnancy, the condition is probably one of gallstones.

The statement that gallstones occur largely in obese people does not hold true; tenderness over the gall bladder is not necessary to a diagnosis and jaundice is present in only part of the cases. If symptoms of nervous dyspepsia with depression are present and patient is not benefited by rest, do not forget to think of gallstones. With an attack of this kind a recent history of typhoid fever favors a diagnosis of gall-bladder disease. The pain may be in the left hypogastrium and the radiation of pain toward the left is probably due to adhesions. Occasionally the pain is so severe that we must diagnose the condition from perforated ulcer of the stomach. In gallstone colic there is less shock than in perforated ulcer and the liver dullness is not obliterated.

When the appendix is high and is diseased, the diagnosis again becomes difficult. In appendicitis there is no jaundice, the point of maximum tenderness is lower and there is tenderness in the loin. In renal colic the pain rarely extends above the waist line and there are red blood cells in the urine immediately after an attack. The x-ray is of value in reaching a diagnosis. The gastric crisis of locomotor ataxia have been confused with gallstones but an examination of the reflexes and pupils will determine definitely. In pneumonia a physical examination will clear up any doubt that may exist. In angina pectoris which sometimes simulates gallstone colic, the fear of approaching death and the anxiety are valuable in reaching a diagnosis. Pleural effusion, cardiac diseases, and dilatation are sometimes confused with the condition but a physical examination usually clears up any doubt. Recurrent attacks of acute indigestion in fair-minded people are usually due to some other cause; gall bladder disease is the most common disturbance of the upper abdomen.

Carcinoma of the stomach is easier to diagnose than gallstones. Dyspepsia in a middle-aged person, who has previously been well, is suggestive of the condition. Contrary to a popular belief, you seldom obtain a previous history of gastric ulcer in these cases. Gastric analysis is often deceptive and the x-ray is useless. Chronic gastritis, gastric ulcer and anemia have been confused with cancer but a careful history and blood studies will clear up the diagnosis. If there is a history of loss of appetite, vomiting and a mass in the abdomen, and the abdominal mass proves to be gastric, make a diagnosis of carcinoma. One case of mitral stenosis, with lower lobe of liver enlarged, was confused with carcinoma of the stomach, as was a case of cirrhosis of the liver with hematemesis.

The various diseases of the kidney as pyelitis, abscess, unilateral nephritis and floating kidney have been mistaken for appendicitis and gallstone disease. In kidney disturbances the pain and rigidity are more in the back; when pus exists it is found in the urine and sepsis appears early.

In duodenal ulcer the pain occurs two or three hours after eating and certain drugs and medicines seem to give relief. The hunger pains are by no means conclusive of ulcer. Gastric ulcer gives a pain immediately after eating, with nausea and hematemesis. In ulcers there is a common tender point in the abdomen and hyperchlorhydria is the rule. Perforation usually gives a history of sudden, excruciating pain in the abdomen, of sufficient intensity to cause collapse. There may be some improvement after the onset of symptoms but unless intervention occurs the abdominal contents become infected and peritonitis results.

Acute pancreatitis gives a history of acute onset, severe pain, nausea and vomiting, mass in the left side, and rapid collapse. The symptoms of hurried respirations, air hunger, rapid and feeble pulse are identical with those of shock.

Adhesions and hernias occasionally simulate gallstone disease, appendicitis and other diseases of the upper abdomen.

Dr. John H. Gibbon of Philadelphia, discussed "The Diagnosis and Treatment of Gastric and Duodenal Ulcers." In at least fifty per cent. of the cases proper diagnosis can be made. Duodenal ulcer is more common than gastric ulcer and both are more common in men than in women. Duodenal ulcer resulting from burns is a very rare condition. From a surgical aspect the history of the case is the most valuable diagnostic aid. Hemorrhage is quite common in gastric ulcer but a hurried diagnosis should not be made. In acute ulcers operation is not advisable. Melena is fairly common in gastric ulcers. Tarry stools in duodenal ulcer are of more value in the presence of other symptoms, than is hematemesis in gastric ulcer. Hyperchlorhydria does not necessarily mean ulcer but the x-ray is of value in helping to reach a conclusion. At times it is very difficult to diagnose between gallstones, gastric and duodenal ulcers. Remember that in the presence of an ulcer the pain is not relieved by morphin while in gallstones the pain is relieved and the rigidity lessened. Appendiceal gastralgia and ulcer are sometimes difficult to diagnose. Hernia of the epigastrium gives pain immediately after eating but the presence of hernia clears the diagnosis. Gastroenterostomy is the operation of choice in these cases and the results are brilliant.

A vote of thanks was extended Drs. Riesman and Gibbon for their papers.

Dr. T. B. Appel presented fragments of a stone removed from the urinary bladder weighing 2020 grains.

Walter D. Blankenship, Reporter.

LEBANON—June, July.

The Lebanon County Medical Society held its meeting in the courthouse on the afternoon of June 17.

In a paper on "Eczema," read by Dr. J. R. Beckley, he said that eczema is a noncontagious, inflammatory disease of the skin, either acute or chronic, appearing in any of the following forms, but generally in the order named: erythema, papules, vesicles, pustules, or a combination of any or all of them. It is accompanied by itching and infiltration, terminating either with a discharge and formation of crusts or in desquamation. This disease is a changeable affection, usually beginning as an erythema, which becomes a moist, excoriated patch, ending in a thickened, dry, scaly surface. It may begin as vesicles or pustules, the former macerating the epidermis, the latter quickly drying into crusts.

Great stress was laid on itching, infiltration, and the occurrence of exudation at some period of the disease, as prominent symptoms aiding in diagnosis, and making it comparatively easy to recognize this disease from others having a somewhat similar appearance. The erythématous variety is a patch, large or small, with or without swelling, pale or bright red, of undefined outline commonly fading into the surrounding healthy skin, easily aggravated by external heat, a heavy meal, alcoholic drinks, acids, or alkalies. The vesicular variety starts with a sensation of heat and irritation followed by the formation of vesicles and a more or less profuse exudation. The pustular variety is recognized by pustules and thick, gummy exudate. The papular variety is recognized by numerous papules which may be large or small, separate or confluent, which at times pass into other lesions. In this variety itching becomes at times almost intolerable.

Eczema seems to be hereditary, attacking males and females in about the same proportion; but strumous persons and those of light complexion are more frequently subject to attack. This disease is directly traceable to some constitutional impairment, and may be from either a peculiar predisposition or some acquired cause. Digestive disorders rank foremost, such as dyspepsia, and bowel irregularities; deficient excretion, excess of uric acid, sugar and albumin in the urine; improper food or too large quantities, imperfect assimilation; disease of the internal organs; veins; changes in the blood due to abnormal products, and many other causes. The local causes are such as irritants in the form of mercury, acids, alkalies, certain plants, oils, heat, cold, excessive perspiration, friction, strong soap, parasites, and even water.

Under treatment, Dr. Beckley laid great stress on the ascertaining of the cause of the disease, claiming that it is comparatively easy to effect a permanent cure when the causes have been successfully removed. In addition he recommended in the chronic form, the use of arsenic, preferably Fowler's solution, with some good general tonic together with such diet as is helpful to build up the system.

In the general discussion Dr. Kleim expressed himself as an advocate of the electrical treatment, using the high-frequency current from a coil or static machine in connection with a high potential resonator or solenoid. Prompt results are obtained in the congestive edematous swelling with the static current. For a short time there is an expression of the serum, followed closely by a reduction of the congestion. A dry dressing of gauze is strapped tightly on the parts during treatment. Dr. Bashore recommended the use of chrysarobin in the intractable cases of pruritus pudendi. Dr. Heilman finds a wash of liquor antisepticus alkalinus (N. F.) and water, equal parts, efficacious in the chronic cases of eczema, and unguentum hydrargyri nitratis, one third, and vaselin, two thirds, in certain cases.

The Lebanon County Medical Society met in the courthouse, July 8.

Dr. Thomas R. Holland read a paper on "Serum and Bacterin Therapy." In reciting the history of vaccination he said that the Chinese were the first to use it, centuries ago and that in 1798 a real investigation took place in England concerning its value and theory. Among the valuable points touched upon were phagocytosis, Wright's opsonic index, opsonins, immunity both acquired and natural, and anaphylaxis. Dr. Holland recited the theory of Sajous that the thyroid secretion caused and increased the protective bodies in the blood. In speaking of inflammation he classified it as a reactive agent against invasion of deleterious influences into the body. If this reaction does not take place and is not complete, septicemia sets in. The rise of body temperature assists in the combat.

The therapeutic value of bacterins was covered and also their diagnostic value, depending upon the presence or absence of a reaction. Stock vaccines, their method and site of injection, negative phases and dosage were all touched upon. Dr. Holland believes that in all serum and bacterin treatments tonics should be administered as adjuncts. In the general discussion the following topics were referred to: phylacogens, Dr. Friedmann, and the later methods of treating acne, rheumatism, typhoid, asthma, furunculosis and pneumonia.

GEORGE R. PRETZ, Reporter.

MIFFLIN—JUNE.

The Mifflin County Medical Society met in Lewistown, June 5, at 11 A.M., with President Brisbin presiding and thirteen members present.

Dr. A. S. Harshberger, chairman of the committee on public policy and legislation, was instructed to write to the governor, asking him to support by his signature the midwifery bill, a bill designed for the better protection of the lives, bodies and health of newborn children and parturient women; also a bill to remunerate physicians for furnishing certificates of deaths and births, the various reports of contagious and reportable diseases, and all medical certificates and reports required by law and the regulations of the state health department.

Dr. C. H. Brisbin read a carefully prepared paper on the "Sphygmomanometer." Many factors influence blood pressure, such as the position of the body, activity, worry, anxiety, excitement, digestion, elasticity of blood vessel walls, amount of blood in the vessels, heart energy. The best time for taking the blood pressure is one and a half hours after meals. The normal pressure varies between 120 and 140, measured in millimeters of mercury. All first-class life insurance companies require a blood pressure test before issuing a policy. Formerly applicants with a high blood pressure were given policies without question, but now with a pressure of 170 or more are held over for further study, and some defect is generally eventually found, such as a trace of albumin in the urine. Dr. Brisbin read a letter from Dr. H. P. Woley, chief examiner for the New York Life Insurance Company, in Chicago, who states the immense value of the sphygmomanometer to insurance companies, the Tycos instrument being the most practical. The blood pressure instrument is becoming a valuable instrument to determine prognosis in such diseases as typhoid fever, pneumonia, and tuberculosis. Drs. Brisbin and Clarkson gave demonstrations of the sphygmomanometer, testing the blood pressure of various members present.

F. A. RUPP, Reporter.

SOMERSET—JULY.

The Somerset County Medical Society met at Riverside Park in July. This was the outing of the year but a downpour of rain for a few hours in the morning kept many at home. The ladies had provided such an abundance of good things that considerable time was required for dining. Representatives to the state society were elected, all correspondence attended to, and a committee on patent medicine advertising consisting of Drs. C. P. Large, Fred Shaeffer and G. C. Berkheimer was appointed. Dr. W. H. Cameron of Pittsburgh was present and addressed the society quoting freely from a paper by Dr. C. L. Stevens, who was unable to be present. Any one who could hear this and then stand aloof from the Medical Society is certainly calous alike to his own interest, the interest of his fellow physicians and the people whom he serves. The next meeting will be held at Rockwood on October 15, at which time we will elect officers for the next year.

H. C. McKinley, Reporter.

TIOGA—June.

The Tioga County Medical Society met at the Blossburg Hospital, Blossburg, June 26, under the directions of Vice President DeWitt. There was a large number of physicians present.

A paper on the "Relative Frequency of Tuberculosis and Cancer," was read by Dr. Edith Flower Wheeler, her conclusion being that tuberculosis occurs the more frequently. Dr. Matta Berry Longwell presented a paper on "Early Diagnosis of Cancer," which was followed by a spirited discussion. Dr. Chas. R. Smith made a few remarks regarding the "Cure of Cancer" giving early surgical treatment as the only cure.

In addition to this program Drs. DeWitt and Hobbs performed three operations, two of which were in line with the subject of the day, a radical operation for cancer of the breast and the removal of a goiter undergoing malignant degeneration.

Lunch was served at the hospital and the meeting was made unusually interesting and profitable through the efforts of the resident physicians. Matta B. Longwell, Reporter.

UNION—July.

The Union County Medical Society held its annual meeting at Lewisburg, July 17. Officers were elected for the ensuing year as follows: President, Dr. C. H. Dimm, Mifflinburg; vice president, Dr. O. W. H. Glover, Laurelton; secretary and treasurer, Dr. A. V. Persing, Allenwood; reporter, Dr. W. E. Metzger, Alvira; censors, Drs. C. A. Gundy, Lewisburg, and D. M. Sampsell, Winfield.

There were present as guests of the society, Drs. Harry Thornton, and Wagner and Councilor VanSickle of the Sixth District. The latter gave a very interesting talk on various medical subjects and reasons why physicians should belong to and stand by the medical societies of the state, not only for the medical but for the social side as well.

A. V. Persing, Secretary.

YORK—June, July.

The York County Medical Society met in regular session in the reception room of the Alexander Biologic Laboratories, Marietta, June 5, at 2 p.m. Dr. Fackler presided and about fifty members were present, with Drs. Lehman of Mountville and Charles Fackler and Robert Hostetter of York, as guests. Preceding the regular meeting, the physicians were served with a most appetizing lunch.

Dr. Long made a brief report for the Committee on Illegal Practice, and stated that there was progress, despite the number of cases occupying their attention and some necessary obstacles encountered. He suggested that a reputable attorney be engaged by the year to assist them in their endeavors.

Following the regular business meeting, the members and guests were divided into three groups and taken through the laboratories, etc., under the guidance of Drs. E. L. Cornman, W. H. Paxson and E. Y. Rich. The various steps followed in the preparation of antitoxins (notably diphtheric and tetanic) were observed and explained, and the principles involved in the treatment of rabies, both theoretically and practically, were illustrated. The stock inspected included about thirty horses, three hundred rabbits, and one thousand guinea pigs. The preparation of smallpox vaccine was also exhibited. The buildings and the various laboratories were spotlessly clean and wonderfully equipped, and the physicians in charge of the work spared no pains in making the visit as instructive as it was interesting.

The York County Medical Society met in the parlors of the Colonial Hotel, July 3, Drs. Long and Fackler presiding and thirty-three members being present.

The committee appointed to draft new by-laws reported progress, and the treasurer's report showed the society to be in a flourishing condition.

Dr. Comroe read a paper on "Unethical Ethics versus Ethical Quackery" (see page 880) and Dr. Charles E. Spahr spoke upon "Diseases of the Nasal Accessory Sinuses; Diagnosis and Treatment." The papers elicited considerable discussion.

Drs. Gilbert (chairman), Bowles and Dice were appointed as a committee on medical advertising. Julius H. Comroe, Reporter.

Sixty-third Annual Session Medical Society of the State of Pennsylvania,

PHILADELPHIA, SEPTEMBER 22-25.

Athens, Pa., August 20, 1913.

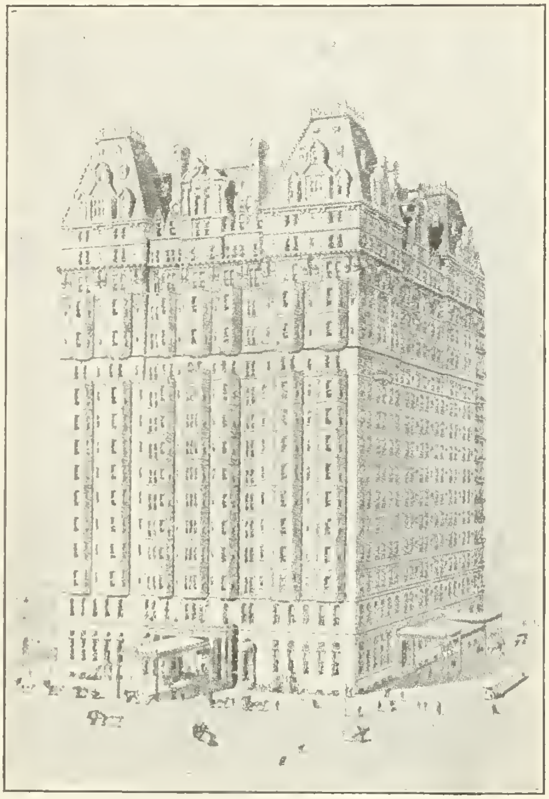
The Sixty-Third Annual Session of the Medical Society of the State of Pennsylvania is hereby called to meet in the Bellevue-Stratford Hotel in Philadelphia, Monday, Tuesday, Wednesday and Thursday, September 22, 23, 24 and 25, 1913.

The first meeting of the House of Delegates will be Monday, September 22, at 8 p. m. All reports of officers and committees are to be printed and mailed the members of the House of Delegates previous to the session.

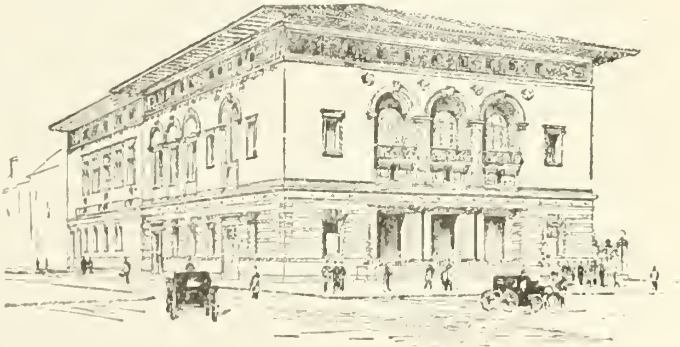
The amendments to the By-Laws, Chapter VII., on Committees, proposed last year by the Trustees and laid over for one year, will come up for consideration by the House of Delegates. (See pages 63 and 66, Journal, October, 1912.) The amendments proposed by Drs. E. B. Heckel and John B. Turner will also come before the House. The resolution was as follows:—

"*Resolved*, That the House of Delegates hereby creates a Press Bureau, the function of which shall be the proper dissemination of news from this society to the public press. It shall exercise a censorship over all items in connection with our annual sessions before giving them to the public press. The Press Bureau shall be made up of eight members as follows: The Secretary and Assistant Secretary to be permanent members; these two shall choose a third man from the local members of the next meeting place and these three shall chose five of the local members of the place of meeting, and designate one for the proceedings of the House of Delegates, one for the General Meetings, one for the Section on Surgery, one for the Section on Medicine, and one for the Section on Specialties. This Bureau shall choose a representative of the public press to whom, and to whom alone or his representative, all news items and all matters for public publication shall be entrusted."

Lewis H. Taylor, President.
C. L. Stevens, Secretary.



Bellevue-Stratford—Headquarters.



Horticultural Hall, Broad St. below Locust: Registration, Information, Post Office, Reception and Rest Rooms, Commercial and Scientific Exhibits.

HOTEL ACCOMMODATIONS FOR THE PHILADELPHIA SESSION.

The Bellevue-Stratford will be the official headquarters during the Philadelphia Session. The officers of the society will be located there. The General Meetings and the meetings of the Sections, of the House of Delegates, and of the Trustees will be held in this hotel.

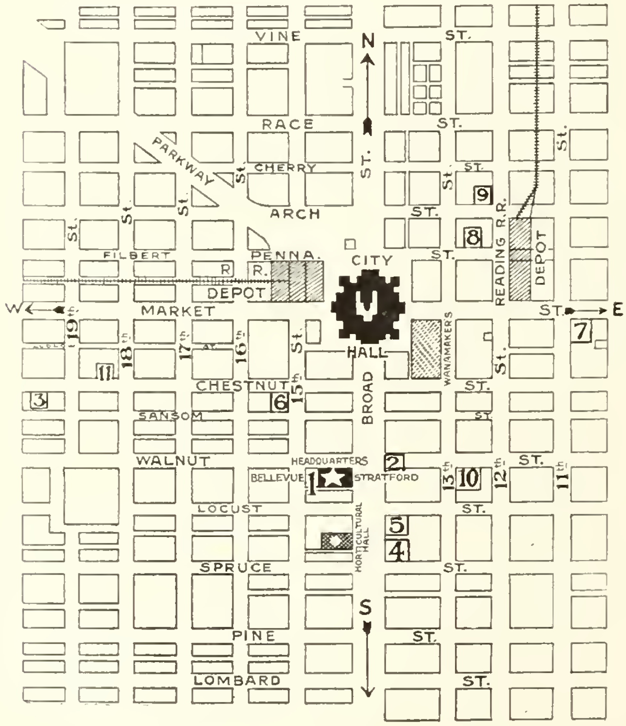
Below is given a list of hotels and rates per day. Members should write to the hotels direct.

EUROPEAN PLAN.

	Rooms without Bath.		Rooms with Bath.	
	Single.	Double.	Single.	Double.
Bellevue-Stratford, Broad (14th) and Walnut.	$ .50 up.		$3.50 up.	
Ritz-Carlton, Broad and Walnut, S.E. Corner.			4.00 up.	$6.00 up.
St. James, Walnut and 13th Sts.	2.00 up.	$3.00 up.	2.50 up.	3.50 up.
Hotel Stenton, Broad and Spruce Sts	**2.00**	3.00	3.00	4.00 up.
Aldine Hotel, Chestnut St. above 19th	1.50 up.		2.50 up.	
Hotel Walton, Broad and Locust Sts.	2.00 up.		2.50 up.	
Rittenhouse Hotel, 22d and Chestnut Sts.	1.50 up.		2.00 up.	
Colonnade, Chestnut and 15th Sts.	1.50 up.		2.50 up.	
Hotel Majestic, Broad St. and Girard Ave.	1.50 up.		2.50 up.	
Bingham House, 11th and Market Sts.	1.50 up.		2.50 up.	4.00 up.
Green's Hotel, 8th and Chestnut Sts.	.00 up.		2.00 up.	
Windsor Hotel, Filbert St., between 12th and 13th	1.00 up.	2.00 up.	2.00 up.	3.00 up.
Hotel Hanover, 12th and Arch Sts.	1.00 up.		1.50 up.	
Dooner's Hotel, 10th St., above Chestnut	1.00 up.		1.50 up, Gentlemen only.	
The Belgravia, Chestnut St., above 18th			3.00 up.	
The Normandie, 36th and Chestnut Sts.	1.50 up.		2.00 up.	

AMERICAN PLAN.

	Room and Meals
Aldine Hotel, Chestnut St., above 19th	$4.00 up.
Rittenhouse Hotel, 22d and Chestnut Sts.	4.00 up.
Hotel Majestic, Broad St. and Girard Ave.	4.00 up.
The Belgravia, Chestnut St., above 18th	5.00 up.
The Normandie, 36th and Chestnut Sts.	3.00 up.



KEY TO HOTEL LOCATIONS.

1—Bellevue-Stratford.
2—Ritz-Carlton.
3—Aldine Hotel.
4—Hotel Stenton.
5—Hotel Walton.
6—Colonnade Hotel.
7—Bingham House.
8—Windsor Hotel.
9—Hanover Hotel.
10—St. James Hotel.
11—The Belgravia.

TRANSPORTATION.

Now that there is so much latitude connected with the use of the regular mileage book (any number can travel on one book and no restriction is placed on the sale of remaining mileage), it is the best and often the cheapest method. Members are advised to look up the mileage from their home station to Philadelphia. The certificate plan is the only special one offered by the railroads, but its advantages are so few and its inconveniences so many that no request has been made for this plan by the officers of the society.

CLINICS FOR MONDAY AND FRIDAY.

The local committee has planned systematic clinical work for Monday and Friday: during these days the best medical, surgical, laboratory and hygienic methods of the day will be practically demonstrated. Members will receive printed programs of these clinics on registering Monday morning, with the hospital geography, giving the promptest means of reaching the various places. On Thursday afternoon a supplementary sheet will be distributed, bringing the clinics for Friday entirely up to date. A partial list of the clinics will be found in the Journal for April, pages 580-583.

HOUSE OF DELEGATES.

(The first name under each county is the president. The off-set names are the alternates.)

ADAMS COUNTY SOCIETY.

James P. Dalbey, Gettysburg, Pres.
  Henry Stewart, Gettysburg, Sec.
Nicholas C. Trout, Fairfield.
  William E. Wolff, Arendtsville.

ALLEGHENY COUNTY SOCIETY.

John W. Boyce, Empire Bldg., Pres.
  I. L. Ohlman, 8122 Jenkins-Arcade Bldg., Sec.
Adolph Koenig, 1111 Westinghouse Bldg.
  Moore S. McKennan, 3451 Ward St.
  Stewart N. Pool, 7000 Penn Ave.
John E. Rigg, Wilkinsburg.
  Charles F. Boucek, 624 Chestnut St., N. S.
  Thomas T. Kirk, 4908 Liberty Ave.
Thomas D. Davis, 261 Shady Ave.
  Charles L. McKinnon, McKees Rocks.
  Samuel C. Milligan, Jenkins Bldg.
William S. Foster, 252 Shady Ave.
  Curtis C. Mechling, Jenkins-Arcade Bldg.
  Edwin Zugsmith, Jenkins-Arcade Bldg.
Robert C. Clarke, 129 S. Highland Ave.
  William S. Ramsey, Coraopolis.
  Charles E. Reif, 616 Chestnut St., N. S.
Adolph Krebs, Jenkins-Arcade Bldg.
  George W. Ely, 7105 Frankstown Ave.
  William A. Nealon, 4526 Penn Ave.
William M. Beach, Bessemer Bldg.
  James D. McClure, Wilkinsburg.
  George H. Vaux, 2163 Center Ave.
John D. Milligan, Fourth Ave. and Smithfield St.
  I. Hope Alexander, Jenkins Bldg.
  Nichols G. L. Shillito, Jenkins-Arcade Bldg.
Christopher C. Sandels, Westinghouse Bldg.
  Guy Engle, Wilkinsburg.
  John G. Burke, Jenkins-Arcade Bldg.

ARMSTRONG COUNTY SOCIETY.

James A. Kelly, Whitesburg, Pres.
  Jay B. F. Wyant, Kittanning, Sec.
George S. Morrow, Dayton.
  Jay B. F. Wyant, Kittanning.

BEAVER COUNTY SOCIETY.

Andrew B. Cloak, Freedom, Pres.
  Boyd B. Snodgrass, Rochester, Sec.
William C. Meanor, Beaver.
  Jefferson H. Wilson, Beaver.
  Theodore P. Simpson, Beaver Falls.

BEDFORD COUNTY SOCIETY.

Walter F. Enfield, Bedford, Pres.
  Clair B. Kirk, Everett, Sec.

BERKS COUNTY SOCIETY.

Ira G. Shoemaker, Reading, Pres.
  H. Philemon Brunner, Reading, Sec.
Israel Cleaver, Reading.
  Daniel Longaker, Reading.

BLAIR COUNTY SOCIETY.

William L. Lowrie, Tyrone, Pres.
  Charles F. McBurney, Altoona, Sec.

BRADFORD COUNTY SOCIETY.

William R. Campbell, E. Smithfield, Pres.
  Cyrus Lee Stevens, Athens, Sec.
Perley N. Barker, Troy.
  Daniel L. Bevan, Leroy.
  Ferdinand A. Thompson, Towanda.

BUCKS COUNTY SOCIETY.

Walter H. Brown, Richlandtown, Pres.
  Anthony F. Myers, Blooming Glen, Sec.
Howard Purcell, Bristol.
  Horace Fleckenstine, Newportville.
  Arthur Wareham, Morrisville.

BUTLER COUNTY SOCIETY.

Ephriam E. Campbell, Butler, Pres.
  William B. Clark, Butler, Sec.
W. Rush Hockenberry, Slippery Rock.
  Alfred H. Ziegler, Butler.
  Robert B. Greer, Butler.

CAMBRIA COUNTY SOCIETY.

William O. Lubken, Johnstown, Pres.
  Harry J. Cartin, Johnstown, Sec.
Benton E. Longwell, Johnstown.
  William S. Wheeling, Spangler.
  Harry Somerville, Chest Springs.

CARBON COUNTY SOCIETY.

Edwin H. Kistler, Lansford, Pres.
  Calvin J. Balliet, Lehighton, Sec.
Alexander Armstrong, White Haven.
  Wilson P. Long, Weatherly.
  Clinton J. Kistler, Lehighton.

CENTER COUNTY SOCIETY.

John V. Foster, Center Hall, Pres.
  Robert G. H. Hayes, Bellefonte, Sec.
James L. Seibert, Bellefonte.
  Melvin J. Locke, Bellefonte.
  Scott M. Huff, Milesburg.

CHESTER COUNTY SOCIETY.

Howard Y. Pennell, East Downingtown, Pres.
  Joseph Scattergood, West Chester, Sec.
Joseph Scattergood, West Chester.
  Harry A. Rothrock, West Chester.
  Percy C. Hoskins, West Chester.

CLARION COUNTY SOCIETY.

Cuvier L. Clover, Knox, Pres.
  Franklin P. Phillips, Clarion, Sec.

CLEARFIELD COUNTY SOCIETY.

J. Frank Rowles, Mahaffey, Pres.
George B. Kirk, Kylertown, Sec.
Ward O. Wilson, Clearfield.
George E. Mauk, Woodland.
Samuel J. Waterworth, Clearfield.

CLINTON COUNTY SOCIETY.

Howard S. Kinne, Loganton, Pres.
Robert B. Watson, Lock Haven, Sec.
Saylor J. McGhee, Mill Hall.
George D. Green, Lock Haven.

COLUMBIA COUNTY SOCIETY.

Heister V. Hower, Mifflinville, Pres.
Luther B. Kline, Catawissa, Sec.
John T. McDonald, Bloomsburg.
John C. Wintersteen, Numidia.
Charles F. Altmiller, Bloomsburg.

CRAWFORD COUNTY SOCIETY.

Rodney S. Smith, Saegerstown, Pres.
Cornelius C. Laffer, Meadville, Sec.
Alfred L. Dennis, Conneautville.
Oliver H. Jackson, Meadville.
John K. Roberts, Meadville.

CUMBERLAND COUNTY SOCIETY.

S. Dana Sutliff, Shippensburg, Pres.
Edward R. Plank, Carlisle, Sec.
Harry A. Spangler, Carlisle.
J. Bruce McCreary, Shippensburg.

DAUPHIN COUNTY SOCIETY.

DeWitt C. Laverty, Middletown, Pres.
Frank D. Kilgore, Harrisburg, Sec.
George R. Moffitt, Harrisburg.
Charles S. Rebuck, Harrisburg
George W. Bauder, Harrisburg.
John Oenslager, Harrisburg.
Park A. Deckard, Harrisburg.
Carson Coover, Harrisburg.

DELAWARE COUNTY SOCIETY.

Fred H. Evans, Chester, Pres.
C. Irvin Stiteler, Chester, Sec.
Harry M. Armitage, Chester.
Norman D. Smith, Rutledge.
David Dalton, Sharon Hill.

ELK COUNTY SOCIETY.

Arthur F. Davis, St. Marys, Pres.
Stanley Barratt, Wilcox, Sec.
Michael M. Rankin, Ridgway.
Clarence G. Wilson, St. Marys.
James G. Flynn, Ridgway.

ERIE COUNTY SOCIETY.

Charles G. Strickland, Erie, Pres.
Judson M. Burt, Erie, Sec.
Judson M. Burt, Erie.
George W. Schlindwein, Erie.
George F. Stoney, Erie.

FAYETTE COUNTY SOCIETY.

Arthur S. Hagan, Uniontown, Pres.
Elliott B. Edie, Connellsville, Sec.
Charles J. Pfleuger, Fairchance.
Clyde W. Conn, Smithfield.
Eben R. Ingraham, Masontown.
Simon H. Baum, Uniontown.
George H. Robinson, Uniontown.
William A. McHugh, Uniontown.

FRANKLIN COUNTY SOCIETY.

William C. Schultz, Waynesboro, Pres.
John J. Coffman, Scotland, Sec.
John J. Coffman, Scotland.
A. Barr Snively, Waynesboro.
Charles M. McLaughlin, Greencastle.

GREENE COUNTY SOCIETY.

Harry C. Scott, Waynesburg, Pres.
Rufus E. Brock, Waynesburg, Sec.

HUNTINGDON COUNTY SOCIETY.

Frank L. Schum, Huntingdon, Pres.
John M. Beck, Alexandria, Sec.
John M. Keichline, Jr., Petersburg.
George W. Simpson, Mill Creek.
Howard C. Frontz, Altoona (Blair Co.)

INDIANA COUNTY SOCIETY.

William E. Dodson, Indiana, Pres.
Charles E. Rink, Indiana, Sec.
Howard B. Buterbaugh, Indiana.
Ralph F. McHenry, Heilwood.
Albert T. Rutledge, Blairsville.

JEFFERSON COUNTY SOCIETY.

Charles C. Hammond, Wishaw, Pres.
Norman C. Mills, Big Run, Sec.

JUNIATA COUNTY SOCIETY.

William H. Banks, Mifflintown,, Pres.
Brady F. Long, Mifflin, Sec.

LACKAWANNA COUNTY SOCIETY.

John B. Corser, Scranton, Pres.
F. Whitney Davis, Scranton, Sec.
Daniel W. Evans, Scranton.
Harry W. Albertson, Scranton.
Lowell M. Gates, Scranton.
Benjamin G. Beddoe, Scranton.
Morgan J. Williams, Scranton.
James L. Rea, Scranton.

LANCASTER COUNTY SOCIETY.

Samuel W. Miller, Lancaster, Pres.
Horace C. Kinzer, Scranton, Sec.
Theodore B. Appel, Lancaster.
John J. Newpher, Mount Joy.
Jacob R. Lehman, Mountville.
Frank G. Hartman, Lancaster.
J. Paul Roebuck, Lancaster.
John L. Atlee, Lancaster.

LAWRENCE COUNTY SOCIETY.

William L. Steen, New Castle, Pres.
William A. Womer, New Castle, Sec.
William A. Womer, New Castle.

LEBANON COUNTY SOCIETY.

J. DeWitt Kerr, Lebanon, Pres.
Charles M. Strickler, Lebanon, Sec.

LEHIGH COUNTY SOCIETY.

Robert C. King, Hellertown, Pres.
J. Treichler Butz, Allentown, Sec.
Frederick A. Fetherolf, Allentown.
Charles H. Muschlitz, Slatington.
George F. Seiberling, Allentown.

LUZERNE COUNTY SOCIETY.

Ernest U. Buckman, Wilkes-Barre, Pres.
Delbert Barney, Wilkes-Barre, Sec.
John B. Mahon, Pittston.
Sanford L. Underwood, Pittston.
Samuel P. Mengel, Parsons.
Herbert B. Gibby, Wilkes-Barre.
William J. Davis, Wilkes-Barre.
Allan C. Brooks, Wilkes-Barre.
William F. Danzer, Hazleton.
Ralph E. Buckley, Hazleton.
John E. Scheifly, Kingston.

LYCOMING COUNTY SOCIETY.

Randall B. Hayes, Jersey Shore, Pres.
Clarence E. Shaw, Williamsport, Sec.
Lee M. Goodman, Jersey Shore.
Robert Rewalt, Williamsport.
Robert F. Trainer, Williamsport.
Elmer S. Hull, Montgomery.
Robert Bruce Tule, Milton (Northum. Co.).
John Nutt, Williamsport.

MC KEAN COUNTY SOCIETY.

Harris A. Canfield, Bradford, Pres.
James Johnston, Bradford, Sec.
Persis R. Straight, Bradford.
Joseph H. Robison, Bradford.
Walter S. Moyer, Rixford.

MERCER COUNTY SOCIETY.

Paul T. Hope, Mercer, Pres.
Patrick E. Biggins, Sharpsville, Sec.
John H. Twitmyer, Sharpsville.

MIFFLIN COUNTY SOCIETY.

Charles H. Brisbin, Lewistown, Pres.
James A. C. Clarkson, Lewistown, Sec.
Benjamin R. Kohler, Reedsville.
Charles J. Stambaugh, Reedsville.
William G. Moorhouse, Renovo (Clinton Co.).

MONROE COUNTY SOCIETY.

Esther W. Gulick, Stroudsburg, Pres.
Samuel W. L'Amoreaux, Stroudsburg, Sec.

MONTGOMERY COUNTY SOCIETY.

Frank C. Parker, Norristown, Pres.
Harry H. Whitcomb, Norristown, Sec.
Oliver C. Heffner, Pottstown.
Henry F. Slifer, North Wales.
John G. Hersh, East Greenville.

MONTOUR COUNTY SOCIETY.

Cameron Shultz, Danville, Sec.

NORTHAMPTON COUNTY SOCIETY.

James J. Quiney, Easton, Pres.
W. Gilbert Tillman, Easton, Sec.
William P. Walker, South Bethlehem.
Delbert K. Santee, South Bethlehem.
M. W. Phillips, Chapman Quarries.
Frederick E. Ward, Easton.
Walter D. Chase, Bethlehem.
Victor S. Messinger, Easton.

NORTHUMBERLAND COUNTY SOCIETY.

Michael J. Flanagan, Shamokin, Pres.
Horatio W. Gass, Sunbury, Sec.
Lester E. Schoch, Shamokin.
Robert B. McCay, Sunbury.
Edwin F. Biekel, Shamokin.

PERRY COUNTY SOCIETY.

E. Kenneth Wolff, Ickesburg, Pres.
A. Russell Johnston, New Bloomfield, Sec.
W. Homer Hoopes, Newport.
A. Russell Johnston, New Bloomfield.
Lenus A. Carl, Newport.

PHILADELPHIA COUNTY SOCIETY.

Charles A. E. Codman, 4116 Spruce St., Pres.
William S. Wray, 2007 Chestnut St., Sec.
(Term expires in 1913).
L. Napoleon Boston, 1819 Chestnut St.
John S. Pearson, 1507 Christian St.
G. Morton Illman, 3235 N. 15th St.
George Fetterolf, 330 S. 16th St.
William Egbert Robertson, 327 S. 17th St.
William T. Hamilton, 932 W. Lehigh Ave.
Wilmer Krusen, 127 N. 20th St.
Thomas R. Currie, 113 E. Cumberland St.
Franklin Brady, 1815 Frankford Ave.
John D. McLean, 1538 S. Broad St.
Stewart C. Runkle, 1605 Christian St.
F. Crozer Knowles, 332 S. 17th St.
George W. Norris, 1530 Locust St.
E. J. G. Beardsley, 2030 Chestnut St.
Morris B. Cooperman, 308 Catharine St.
Alice M. Seabrooke, 22d St. and N. College Ave.
Ella B. Everitt, 1807 Spruce St.
Alice W. Tallant, 1807 Spruce St.
Mitchell P. Warmuth, 1701 Chestnut St.
Joseph McFarland, 443 W. Stafford St., Gtn.
Francis J. Dever, 317 S. 18th St.
(Term expires in 1914).
Herman B. Allyn, 501 S. 42d St.
Joseph D. Farrar, 1944 N. Broad St.
Percy L. Balentine, 2117 Chestnut St.
J. Montgomery Baldy, 2219 DeLancey St.
A. A. Cairns, 1539 Columbia Ave.
Nathaniel Ginsburg, 1704 Pine St.
J. Clinton Foltz, Summit St., Chestnut Hill.
Rae S. Dorsett, 1729 Arch St.
Isaac Leopold, 1428 N. Broad St.
Levi J. Hammond, 1222 Spruce St.
J. Evans Scheehle, 1504 Christian St.
I. Pearson Willits, 31 W. Walnut Lane, Gtn.
J. Torrance Rugh, 1616 Spruce St.
William F. Guilfoyle, 4014 Chestnut St.
Randle C. Rosenberger, 2330 N 13th St.
Francis T. Stewart, 311 S. 12th St.
Rufus B. Scarlett, 78 N. Clinton Ave, Trenton, N. J.
Morris B. Miller, 2117 Pine St.
John B. Roberts, 313 S. 17th St.
Samuel P. Gerhard, 639 N. 16th St.
Henry K. Gaskill, 1610 Spruce St.
William M. Sweet, 1205 Spruce St.
Edward H. Goodman, 248 S. 21st St.
Vincent Lyon, 1901 Pine St.

POTTER COUNTY SOCIETY.

Ross H. Jones, Coudersport, Pres.
Elwin H. Asheraft, Coudersport, Sec.

SCHUYLKILL COUNTY SOCIETY.

Harry S. Stewart, Friedensburg, Pres.
George O. O. Santee, Cressona, Sec.
Lyman D. Heim, Schuylkill Haven.
G. R. S. Corson, Pottsville.
Gouveneur H. Boyer, Pottsville.

SNYDER COUNTY SOCIETY.

E. W. Tool, Freeburg, Pres.
John O. Wagner, Beaver Springs, Sec.

SOMERSET COUNTY SOCIETY.

Bruee Liehty, Meyersdale, Pres.
H. Clay McKinley, Meyersdale, Sec.
William T. McMillan, Meyersdale.
Edward F. Hemminger, Jr., Meyersdale.
Robert Heffly, Berlin.

SULLIVAN COUNTY SOCIETY.

Philip G. Biddle, Dushore, Pres.

SUSQUEHANNA COUNTY SOCIETY.

A. Stryker Blair, Hallstead, Pres.
Edward R. Gardner, Montrose, Sec.
Dever J. Peek, Susquehanna.
Abram E. Snyder, New Milford.

TIOGA COUNTY SOCIETY.

Farnham H. Shaw, Wellsboro, Pres.
Arland L. Darling, Lawrenceville, Sec.
Farnham H. Shaw, Wellsboro.
William A. DeWitt, Blossburg.
Solomon P. Hakes, Tioga.

UNION COUNTY SOCIETY.

Charles H. Dimm, Mifflinburg, Pres.
Amos V. Persing, Allenwood, Sec.
Weber L. Gerhart, Lewisburg.
Ralph Steans, Lewisburg.

VENANGO COUNTY SOCIETY.

Samuel W. McDowell, Pittsville, Pres.
J. Irwin Zerbe, Franklin, Sec.
James B. Siggins, Oil City.
Jacob P. Strayer, Oil City.

WARREN COUNTY SOCIETY.

John C. Russell, Warren, Pres.
Charles W. Schmehl, Warren, Sec.
Irving G. Hyer, Clarendon.
Franklin G. Haines, Warren.
Paul Stewart, Warren.

WASHINGTON COUNTY SOCIETY.

Charles C. Cracraft, Claysville, Pres.
Albert E. Thompson, Washington, Sec.
Frederick C. Stahlman, Charleroi.
Robert V. Stewart, Monongahela.
Edgar M. Hazlett, Washington.
William D. Martin, Dunns Station.

WAYNE COUNTY SOCIETY.

Robert W. Brady, Honesdale, Pres.
Frederick A. Lobb, Hawley, Sec.
A. A. Berlin, Newfoundland.
Frederick A. Lobb, Hawley.
Louis B. Nielson, Honesdale.

WESTMORELAND COUNTY SOCIETY.

William H. Taylor, Irwin, Pres.
Myers W. Horner, Mt. Pleasant, Sec.
Carroll B. Rugh, New Alexandria.
Martin E. Griffith, Monessen.
Thomas Cole, Greensburg.
Samuel B. Gray, Scottdale.
Melvin H. Smithgall, Export.
L. B. R. Smith, Jeannette.

WYOMING COUNTY SOCIETY.

Anderson D. Tewksberry, Tunkhannock, Pres.
Herbert L. McKown, Tunkhannock, Sec.
William W. Lazarus, Tunkhannock.
Frank H. Bardwell, Tunkhannock.
Herbert L. McKown, Tunkhannock.

YORK COUNTY SOCIETY.

Lewis H. Fackler, York, Pres.
Julius H. Comroe, York, Sec.
George E. Holtzapple, York.
Joseph H. Bittinger, Hanover.
Lawton M. Hartman, York.

DELEGATES FROM OTHER SOCIETIES.

CONNECTICUT STATE MEDICAL SOCIETY.

William H. Carmalt, New Haven.
Burton I. Tolles, Ansonia.

MEDICAL SOCIETY OF NEW JERSEY.

William Edgar Darnall, Atlantic City.

PENNSYLVANIA PHARMACEUTICAL ASSOCIATION.

W. L. Cliffe, Philadelphia, Chairman.
M. I. Wilbert, Washington, D. C.
Ambrose Hunsberger, Philadelphia.

PRELIMINARY PROGRAM.

GENERAL MEETING.

BALL ROOM, SECOND FLOOR.

Tuesday, September 23, 10 a.m.

Call to order by the President.
Lewis H. Taylor, Wilkes-Barre.

Prayer by the Rt. Rev. Phillip M. Rhinelander, Bishop of Pennsylvania.

Address of Welcome.
Hon. Rudolph Blankenburg, Mayor of Philadelphia.

Address of Welcome.
Charles A. E. Codman, President of the Philadelphia County Medical Society.

Introduction of Delegates from Sister Societies.

1. President's Address.
Lewis H. Taylor, Wilkes-Barre.

2. Modern Ideals in the Care of the Insane.
William K. Walker, Pittsburgh.

Outline. Grounded upon the "physiological conception" of insanity is the main principle, *viz.*, that the insane are sick people and their adequate care demands scientific method at hands of doctors and nurses. "Physiological conception" of insanity emphasizes importance of "treatment of the mind" by scientific method. Modern humanitarianism reminds us that the insane are human beings and have a claim upon the consideration of society.

Discussion opened by Edward E. Mayer, Pittsburgh.

3. Relation of Venereal Diseases to the Public Health. Edward Martin, Philadelphia.

Outline. Crusade against social evil an organized and concerted effort. Most potent influences against sexual immorality those of the home, the school, and a busy, wholesome communal life. Of secondary importance, but still indispensable, may be counted a full knowledge of consequences and wise police regulations properly enforced. It is incumbent upon us to take certain steps: Diffusion of knowledge concerning usual and unusual methods of contagion of syphilis and gonorrhea; prompt application of prophylactic measures after possible exposure; immediate recognition and intensive treatment of first lesions of syphilis, thus promptly converting it into a nontransmissible disorder; insistence upon modern tests for absence of syphilis and gonorrhea before medical permission is given for marriage; consideration of question of making syphilis and gonorrhea reportable diseases.

Discussion opened by Charles J. Hatfield, Philadelphia.

4. The Problem of the Unfit.
Edward E. Mayer, Pittsburgh.

Outline. Biological and sociological problems involved in medical care of the mentally defective are not sufficiently appreciated by rank and file of medical practitioners. Not social workers and psychologists, but physicians, must deal with psychogenetic problems of psychoneurotic. Psychopathic considerations involved in environmental maladjustments illustrated in study of prostitution, juvenile delinquent, etc. Duty of physicians to take part in mental hygiene propaganda.

Discussion opened by Theodore Diller, Pittsburgh.

5. Alleged Malpractice Suits and Their Defense.
Cyrus Lee Stevens, Athens.

Outline. Preliminary remarks. Impressions gathered from an analysis of forty-four cases of alleged malpractice. What to do and what not to do when threatened with suit.

Discussion opened by William L. Estes, South Bethlehem.

MOVING PICTURES.

HORTICULTURAL HALL.

Under Auspices of Subcommittee on Scientific Exhibits.

TUESDAY, SEPTEMBER 23, AND WEDNESDAY, SEPTEMBER 24, 4:30 P.M.

(It is not possible to designate which pictures will be shown on Tuesday and which on Wednesday.)

1. Trypanosoma Brucei, the Etiological Agent of Nagana, an African Horse Sickness. View of the tsetse fly and of the blood of a mouse inoculated with nagana. Views end with the fifth day of infection. This parasite belongs to the same group as that producing sleeping sickness in man.

Remarks and explanation by ALLEN J. SMITH.

2. The Spirochete of Relapsing Fever (Obermeier) in the Blood of a Mouse.

Remarks and explanation by A. C. ABBOTT.

3. The Ameboid Movements of Leukocytes in the Blood of the Newt.

Remarks and explanation by R. M. PEARCE.

4. The Spirochæta Pallida, the Etiological Agent of Syphilis. Appearance of the spirochetes in smears from experimental corneal lesion of a rabbit as shown by dark field illumination (ultramicroscope).

Remarks and explanation by J. A. KOLMER.

5. The Circulation of the Blood in the Tail of a Tadpole.

Remarks and explanation by EDWARD LODHOLTZ.

WEDNESDAY, SEPTEMBER 24, 9 A.M.

Reading of Minutes.

6. Our Present Conception of "Arthritis Deformans."
DAVID SILVER, Pittsburgh.

OUTLINE. General classification of joint disease. Analysis of types grouped under arthritis deformans. Facts in favor of an infectious type. Probability of a metabolic type. Other etiological factors. A consideration of method of examination in such cases. Outline of treatment.

7. Medical Ethics in Relation to Röntgenology.
DAVID R. BOWEN, Philadelphia.

OUTLINE. Differing views of ethics and a cause. Errors because of close relation to photography. Obligations of physician, roentgenologist and patient. Ownership of plates and prints. Fee and what it is for. Interpretation of another's plates. Examination of alleged malpractice victims. Patients who have previously had x-ray therapy. Expert testimony. Necessity that roentgen diagnosis and therapy be confined to medical profession.

Discussion opened by JOHN H. GIBBON, Philadelphia.

SYMPOSIUM: ESTABLISHED VALUES IN PHYSICAL AND MECHANICAL THERAPEUTICS.

8. Mechanotherapy.
J. MADISON TAYLOR, Philadelphia.

OUTLINE. Mechanotherapy. Therapeutic resources can be greatly amplified by forming clear conceptions of potentialities which mechanical forces are capable of exerting. By attaining a practical familiarity with physiodynamics of body in their relation to clinical problems much light is shed on significance and anomalies of development; effects which these exert on processes and phenomena of damage, derangement and disease, as well as ever-varying powers for repair. Relief of disabilities. Domain of constructive and reconstructive personal hygiene. Among mechanical remedial agencies: Devices to reinforce under-developed, impaired, deformed, overstrained, weakened parts or structures; removal of offending parts; supplementing nature by artificial mechanical substances; altering blood and lymph currents; utilizing correct posture; manipulation of structures (manutherapy); education and training of organs of special sense; education of skeletal or muscular structures; education of finer structures; training in niceties of adjustment; psychomotor standpoint; mind control.

9. Values Determined by Clinical Observation and Laboratory Experiments.
WILLIAM H. CAMERON, Pittsburgh.

OUTLINE. Conclusions based on long experiences in handling various subacute and chronic conditions. Contrasting results in cases treated exclusively by physical and mechanical agents; those in which such agents were used as aids to medicine, dietetic or climatic measures, and those in which the latter measures alone were employed. Results of recent clinical and laboratory experiments with radioactive preparations and radio-emanation. Effort to establish the proper dosage, etc.

Discussion on symposium opened by A. B. HIRSH, Philadelphia, and ALBERT PETTIT, Pittsburgh.

10. Recognition and Treatment of Graves' Disease.
HENRY S. PLUMMER, Rochester, Minn.

11. What Training Makes the Best Specialist?
HENRY W. CATTELL, Philadelphia.

OUTLINE. The best specialists to-day are those trained in gross morbid anatomy; those best fitted to be the specialist to-morrow, those who took up laboratory work some fifteen years ago. Overeducation and false ideals often spoil a good general practitioner, without the making of a successful specialist. Dentistry should be a special branch of medicine, just as much so as is ophthalmology at present time. Effect of National Insurance Act of the United Kingdom and of a special degree for surgeons on the future specialist. The diffusion of knowledge making the specialist of to-day the general practitioner of to-morrow. Service to mankind the keynote of determining whether one should enter the ranks of the specialist or remain in general practice.

Discussion opened by GEORGE W. GUTHRIE, Wilkes-Barre.

THURSDAY, SEPTEMBER 25, 2 P.M.

Reading of Minutes.

12. The Operative Treatment of Hernia.
J. B. CARNETT, Philadelphia.

OUTLINE. Inefficiency of truss treatment. Some data obtained by truss manufacturers. Hernia patients using trusses do not receive proper medical supervision. Strangulation of hernia as a complication of various surgical affections which cause abdominal straining efforts. All hernias should be subjected to operation except when definite contraindications are present. Contraindications. General review of technic of operations, with suggestions as to choice of various modifications for individual cases. Immediate and ultimate results.

13. Newer Methods of Specific Therapy.
ALFRED STENGEL, Philadelphia.

14. The Scientific Basis for Vaccine Therapy.
RICHARD M. PEARCE, Philadelphia.

OUTLINE. Principles of immunity. Old and new views of vaccination. Therapeutic and prophylactic vaccination. Autogenous vaccination *versus* bacterial polypharmacy. Toxic and immunizing elements in true vaccines and in bacterial filtrates. Difficulties in interpreting results of vaccine therapy. Untoward effects of vaccines. How much may be expected from vaccine treatment?

15. Oral Sepsis and Its Possible Dangers.
RANDLE C. ROSENBERGER, Philadelphia.

OUTLINE. Bacteria of the normal mouth; of a clean mouth; of an uncleaned mouth. Bacteria in dental decay. Decayed teeth. Stumps of teeth and invasion by bacteria. Infection of the gums. Ulcers of the mouth. Ulceromembranous conditions apart from diphtheria. Danger of capped teeth. Manifestations of a toxic nature. Disturbances of the stomach and intestines and possibly other viscera. Prophylaxis. Remedies.

16. The Dental Aspect of Oral Asepsis.

I. NORMAN BROOMELL, Philadelphia.

OUTLINE. Long recognized as essential to the reservation of the general health. Oral sepsis the cause of many systemic diseased conditions. Oral cleanliness an essential factor in tooth conservation. Tooth conservation essential to general health. Chronic suppurative and necrotic conditions, both dental and peridental, a serious detriment to the general health. Some suggestions in regard to how asepsis may be maintained. Oral manifestations of systemic disease.

Discussion opened by J. HAROLD AUSTIN, Philadelphia

17. The Care of Advanced Cases of Tuberculosis.

CHARLES J. HATFIELD, Philadelphia.

OUTLINE. Antituberculosis movement in United States organized for cure rather than prevention. Present knowledge places prevention first. Logical sequence. Importance of care of advanced cases based on reasonable grounds. Focus of infection. Influence of Newsholme and Pearson. Necessary features of hospitals for advanced cases. Relative value of large centrally located hospitals and numerous small local institutions. Report of committee investigating this subject for the National Association. Present equipment of the state for control of tuberculosis in many respects good but can be improved. Progressive policy must be adopted. Care of advanced cases only a step. Next of pressing importance is prevention of tuberculosis among children, and investigation and control of homes, sanitation, ventilation, food and water supply, infectious diseases.

18. Ophthalmia Neonatorum.

THOMAS B. HOLLOWAY, Philadelphia.

OUTLINE. Statistics fail to show actual ocular damage done by ophthalmia neonatorum. A large percentage of these cases are nongonorrheal. The need for cooperation of physicians of state towards securing rigid enforcement of the new act relating to reporting of cases of ophthalmia neonatorum. The need of suitable hospital facilities for treating these cases. Necessity of an absolute cure before allowing these cases to pass from observation.

Discussion opened by BARTON COOKE HIRST, Philadelphia.

Introduction of President Elect.

Unfinished Business.

Announcement of Committees by Retiring President.

Reading of Minutes.

Adjournment.

THURSDAY, SEPTEMBER 25, 4:30 P.M.

HORTICULTURAL HALL.

1. Anatomical Defects of the Heart. Illustrated with lantern slides. (30 minutes)

ALLEN J. SMITH.

2. Oral Sepsis. Illustrated with lantern slides. (30 minutes) RANDLE C. ROSENBERGER.

THURSDAY, SEPTEMBER 25, 8 P.M.

HORTICULTURAL HALL.

Hospital and Dispensary Abuse.

1. Philadelphia Laymen and Physicians Unite to Reform Medical Charities Abuse.

JOSEPH D. FARRAR, Philadelphia.

OUTLINE. That the medical profession is called upon and actually does an enormous amount of charitable or altruistic work is a matter of daily observation. It may not be regarded as an exaggerated statement to say that at least one third of the average physician's labor goes for the benefit of the needy in the community. That not an inconsiderable portion of this sacrifice of time, labor and money is needless is evident from the ever-recurrent complaint against the abuse of medical charity.

2. The Necessity and Abuse of Dispensaries.

M. HOWARD FUSSELL, Philadelphia.

OUTLINE. Varieties of dispensaries. How are they conducted? Their necessity. Their abuse, real and imaginary. How can their abuse be remedied?

Members discussing these papers will be limited to five minutes.

SECTION ON MEDICINE.

OFFICERS OF SECTION.

Chairman—JAMES D. HEARD, Liberty National Bank Building, Pittsburgh.

Secretary ALFRED HAND, JR., 1724 Pine St., Philadelphia.

Executive Committee—JAMES I. JOHNSTON, Pittsburgh; EDGAR M. GREEN, Easton; CHARLES H. MINER, Wilkes-Barre.

TUESDAY, SEPTEMBER 23, 2 P.M.

SYMPOSIUM: ATTITUDE OF THE MEDICAL PROFESSION TOWARD CERTAIN PUBLIC HEALTH PROBLEMS.

1. Opening Address by the Chairman.

JAMES D. HEARD.

2. The Crusade against Tuberculosis.

H. R. M. LANDIS, Philadelphia.

Discussion opened by SAMUEL G. DIXON, Harrisburg.

3. Social Service and the Physician.

FREDERICK H. KLAER and J. CLAXTON GITTINGS, Philadelphia.

OUTLINE. Social service is an integral part of the function of the hospital, both as an adjunct to diagnosis and treatment and as a part of preventive medicine; it has medical as well as sociologic functions. Physicians should therefore take active part in management of the social service department, in order to prevent inefficiency from the medical standpoint.

Discussion opened by ALBERT P. FRANCINE, Philadelphia.

4. The Social Evil.

EDWARD MARTIN, Philadelphia.

OUTLINE. The problem is a sanitary and, from the professional standpoint, not primarily an ethical one. The question is neither solved nor conditions materially bettered by police control and punitive measures. An educational propaganda is the first step in limiting the spread of venereal diseases.

Discussion opened by LAWRENCE LITCHFIELD, Pittsburgh, and CHARLES J. HATFIELD, Philadelphia

5. Infant Mortality.

CHARLES A. FIFE, Philadelphia.

OUTLINE. Brief review of statistics with summary of causes in rural and urban locations. Agencies at present striving to lower infant death rate; suggestions for increasing efficiency. Relation of state society and individual physician to such activities. How to arouse in the body medical and lay public greater interest in the problem of relieving the appalling infant mortality.

Discussion opened by JOSEPH S. NEFF, Philadelphia.

6. Care of Defectives.

J. MOOREHEAD MURDOCH, Polk.

OUTLINE. Mental deficiency or feeble-mindedness is the basic social problem; it is the cause of more misery, pauperism, alcoholism, prostitution and crime than probably any other factor. Sociologic and economic bearings of feeble-mindedness have overshadowed the fact that it is fundamentally a medical problem, the result of physiological lesions of the central nervous system or of the ductless gland. Subject should receive more attention in medical schools. Importance of heredity as dominant etiologic factor. Extent of feeble-mindedness in Pennsylvania. Sterilization, segregation and restricted marriage laws.

Discussion opened by MARTIN W. BARR, Elwyn.

General discussion on symposium opened by ALFRED STENGEL, THOMAS MCCRAE and CHARLES H. FRAZIER, Philadelphia.

7. Diagnosis and Treatment of Diabetic Coma.

DAVID RIESMAN, Philadelphia.

OUTLINE. Signs of impending, and diagnosis of established, coma. Prognosis. Treatment. Reports of some recoveries.

Discussion opened by JAMES TYSON, Philadelphia.

WEDNESDAY, SEPTEMBER 24, 2 P.M.

Reading of Minutes.

Report of Executive Committee.

Election of Section Officers.

8. Hot Pack and Continuous Hot Bath in the Treatment of Alcoholic Patients with Lobar Pneumonia.

THOMAS GRIER SIMONTON, Pittsburgh.

OUTLINE. Brief review of rationale of continuous hot bath in the treatment of nervous patients of the toxic type. Difficulty of handling patients in delirium tremens with pneumonia; high mortality. Selection of cases suitable for continuous hot bath or hot pack. Temperature of water, duration; effect on blood pressure, nervous system and mental condition; elimination by skin and kidneys; pulse rate; danger signals; soothing effect on patient; increased thirst. Results in small series of cases.

Discussion opened by C. C. WHOLEY and and JAMES I. JOHNSTON, Pittsburgh.

9. Fresh-Air Treatment of Pneumonia.

M. HOWARD FUSSELL, Philadelphia.

OUTLINE. Usual treatment as compared with that of fresh air. Value of fresh-air treatment; its drawbacks, its practicability. Methods.

Discussion opened by R. MAX GOEPP and HOBART A. HARE, Philadelphia.

10. The Clinical Significance of Vascular Hypotension.

GEORGE MORRIS PIERSOL, Philadelphia.

OUTLINE. Importance of low blood pressure has been much neglected. Its pathological physiology. Clinical conditions, particularly medical, under which it is found. Value of recognition in diagnosis and prognosis. Analysis of cases illustrating its importance. Treatment.

Discussion opened by E. H. GOODMAN, Philadelphia.

11. Transitory Vascular Hypertension Independent of Renal or Arterial Disease.

ROBERT G. TORREY, Philadelphia.

OUTLINE. Symptoms accompanying the condition, circulatory and nervous. Occurrence at time of menopause. Other conditions causing it. Response to drugs and other therapeutic measures, with particular reference to internal use of ichthyol.

Discussion opened by JOSEPH SAILER, Philadelphia.

12. Brill's Disease; Comparison of Three Cases with Cases of Typhus Fever Treated by the Author.

ALBERT E. ROUSSEL, Philadelphia.

OUTLINE. Animal experimentation points to identity of typhus fever and Brill's disease, although latter is mild and seems to lack contagion. Symptomatology. Comparison of three cases of Brill's disease with forty-seven of typhus fever.

Discussion opened by J. C. WILSON and J. M. ANDERS, Philadelphia.

13. Recent Advances in Diagnostic Blood Examination.

O. H. PERRY PEPPER, Philadelphia.

OUTLINE. Improvements in routine methods. Arneth's scale. Special staining methods: oxydase reaction; vital staining. Reticulated erythrocytes; Dohle bodies. General discussion.

Discussion opened by A. G. ELLIS, Philadelphia.

14. Studies on the Serum Diagnosis of Syphilis.

JOHN A. KOLMER and ERNEST E. LAUBAUGH, Philadelphia.

OUTLINE Results in the serum diagnosis of syphilis in the various stages; also in lead poisoning, nonsyphilitic febrile conditions, etc. A comparative study of the so-called syphilis "antigens," *Spirochaeta pallida* antigens; advantage of using multiple antigens, etc.

Discussion opened by JAY F. SCHAMBERG, Philadelphia.

15. Functional Studies of the Kidney in Nephritis.

J. HAROLD AUSTIN, Philadelphia.

OUTLINE. Study of nephritis from functional standpoint contrasted with its study from anatomic standpoint. Albuminuria a functional test. Lipoid casts in urine and their significance. Elimination of urea and chlorids and the amount of urine as indications of renal efficiency. Test substances, their relative value: Potassium iodid, lactose, phenolsulphonephthalein, indigocarmin. Phthalein test in different types of nephritis.

16. Some Conditions Complicating Operation for Brain Tumor.

WILLIAM G. SPILLER, Philadelphia.

OUTLINE. Removal of tumor of brain does not always remove symptoms because in some cases alterations of various types secondary to the tumor have occurred in the brain and these can not be removed by the surgeon. Tumor may cause great distortion of the brain because of which operation may be serious. Hernia cerebri is not necessarily conditioned by intracranial pressure and may produce disturbance of brain function more serious than that caused by the tumor. Lantern demonstration.

Discussion opened by CHARLES K. MILLS, Philadelphia.

THURSDAY, SEPTEMBER 25, 9 A.M.

Reading of Minutes.

17. A Statistical Study of Hydrothorax; Its Diagnosis and Treatment.

JAMES M. ANDERS, Philadelphia.

OUTLINE. Relative incidence of valvular and myocardial hydrothorax. Number of myocardial cases in which chronic interstitial nephritis was coexistent. Myocardial cases in which marked arteriosclerosis was associated. Myocardial cases without external edema. Relative incidence of right- and left-sided hydrothorax; right-sided only, and both sides. Age, sex and habits of patients. Diagnosis of hydrothorax and its treatment.

Discussion opened by Alfred Stengel and Judson Daland, Philadelphia.

18. The Treatment of Pulmonary Tuberculosis by Artificial Pneumothorax.

C. M. Montgomery and John Speese, Philadelphia.

Outline. Brief reference to history and literature. Indications for production of artificial pneumothorax with discussion of type of case suitable for method. Important points in technic of operation; dangers encountered. Value in arresting hemorrhage. Immediate and late results in cases treated in last two years.

Discussion opened by H. R. M. Landis, Philadelphia.

19. Some Observations on the Use of Massive Doses of Antitoxin in Diphtheria.

Samuel S. Woody, Philadelphia.

Outline. Theory of action of diphtheria antitoxin. Reasons for use of massive doses: Necessity for early and complete neutralization of toxins; prevention of complications and sequelæ. Possible objections to use of massive doses: Anaphylaxis; supposed directly harmful action of the antitoxin itself; expense. Actual results: As affecting the death rate; as lessening the number and severity of complications and shortening the period of convalescence.

Discussion opened by B. Franklin Royer, Harrisburg.

20. Pyuria in Infancy.

Theodore J. Elterich, Pittsburgh.

Outline. Pyuria is a general term. Frequent occurrence of acute pyelitis in infants. Etiology, symptoms and treatment. Importance of early diagnosis and routine examination of the urine of young infants.

Discussion opened by John F. Sinclair, Philadelphia.

21. Some Unusual Instances of the Value of Serum and Bacterin Therapy.

James H. McKee, Philadelphia.

Outline. Generalized erysipelas in an eight months old infant; recovery. Septic pneumonia and double otitis media complicating measles; recovery. Surgical sequelæ of typhoid fever disappearing rapidly with the use of bacterins. Furunculosis with sepsis following typhoid fever; recovery.

Discussion opened by Harry A. Duncan, Philadelphia.

22. Spontaneous Hemorrhages of the Newly Born. Ogden M. Edwards, Pittsburgh.

Outline. Their incidence. Accurate classification impossible. Etiology, symptomatology, prognosis. Different methods of treatment: gelatin, calcium chlorid, serum, defibrinated blood, whole blood, transfusion. Technic of simple method of transfusion.

Discussion opened by H. T. Price, Pittsburgh.

23. Investigation of One Hundred Cases of Chorea. Arthur Newlin, Philadelphia.

Outline. Difficulty in handling out-patients; important aid of social worker. Home conditions are influential factor in results of treatment; outline of these conditions as found. Improvement of surroundings of special importance in management of chorea. Results of investigation.

Discussion opened by D. J. McCarthy, Philadelphia.

24. The Value of Anatomy as applied to the Diagnosis of Medical Conditions.

William Egbert Robertson, Philadelphia; and John Roxby, Swarthmore.

25. The Present Status of the Insanity Problem.

John H. W. Rhein, Philadelphia.

Outline. Discussion of inadequacy of present measures to handle the problem. Most important step is the establishing of psychopathic wards in general hospitals and psychiatric departments connected with teaching institutions. Importance of prophylactic measures and social service. Needs as to early treatment of insanity.

Reading of Minutes.

Adjournment.

SECTION ON SURGERY.

Officers of Section.

Chairman—John B. Lowman, Johnstown.

Secretary—Floyd E. Keene, 116 South Nineteenth St., Philadelphia.

Executive Committee—Edward Martin, Philadelphia; Jonathan M. Wainwright, Scranton; Otto C. Gaub, Pittsburgh.

Tuesday, September 23, 2 p.m.

1. Opening Address by the Chairman.

John B. Lowman.

2. The Mimicry of Disease of the Upper Abdomen by Omental Adhesions.

George P. Müller, Philadelphia.

Outline. Need for exact data before diagnosing duodenal ulcer, gallstones, chronic appendicitis, etc. Simulation of these diseases by the drag on the viscera of omental adhesions. Methods of diagnosis; report of cases bearing on this point.

Discussion opened by John B. Deaver, Philadelphia.

3. Puerperal Sepsis and the Present Methods of Treatment.

Edward E. Montgomery, Philadelphia.

Outline. Cases entering my service at Jefferson Hospital would indicate an inclination to active interference. Curetment is common practice. Its employment should be unequivocally condemned. Even in cases of retained and decomposing products its use is often of questionable value. In septic processes, the organisms have soon passed beyond reach of the instrument and it but serves to break down barriers nature has erected for protection. The attendant's energies are best directed to conserving the vitality of patient, promoting elimination, establishing immunity to further invasion and maintaining nutrition. Operative measures should be employed only when infection leads to localized suppuration.

Discussion opened by Richard C. Norris, Philadelphia.

4. Fracture of the Surgical Neck of the Humerus. George G. Ross, Philadelphia.

Outline. Description; deformity; results; frequency; involvement of trochanters; treatment.

Discussion opened by Gwilym G. Davis, Philadelphia.

5. Ludwig's Angina, or Submaxillary Cellulitis with Extension to the Floor of the Mouth.

T. Turner Thomas, Philadelphia.

Outline. A fulminating cellulitis, usually streptococcic. Mortality about forty per cent. Real seriousness often unrecognized until patient is nearly moribund. Cause of death is almost always edema of glottis. Dyspnea not a safe guide to its recognition. Swelling in floor of mouth is signal for prompt and vigorous exposure and drainage of focus of submaxillary cellulitis. Report of two cases.

Discussion opened by Ralph Butler, Philadelphia.

6. The Modern Diagnosis of Tuberculosis of the Kidney.

Benjamin A. Thomas, Philadelphia.

Outline. Rôle of kidney in tuberculosis of genito-urinary tract. Importance of early and exact diagnosis. Frequent preponderance of vesical, even to exclusion of renal, symptoms. Utility and necessity often of cystoscopy in order to establish source of urogenital tuberculosis. Chromoureteroscopy *versus* ureteral catheterization in the determination of unilateral and bilateral infection. Relative value of stained smear and animal inoculation by the Block, intraperitoneal and Hagemann or allergic reaction methods for demonstration of tubercle bacillus. Palliative *versus* operative treatment. Sphere of tuberculin therapy. Analysis of cases, prognosis and post-operative results.

7. Diagnostic Methods Applicable to Renal and Ureteral Lesions.

George M. Laws, Philadelphia.

Outline. Exhibition of diagnostic armamentarium, cystoscopes, types of catheters, sterilizer, colorimeter. Description of methods of sterilizing and storing instruments. Technic, including sources of error. Illustrative cases. Catheterization of ureters, collargol injection, collection of specimens, functional tests. Charts showing salient facts; frequency of congenital absence of kidney; onset of first symptom of tuberculosis; results of functional tests, etc. Skiagrams, with and without collargol. Tumor, ureteral kinks, hydronephrosis, calculus, etc.

Discussion on papers 6 and 7 by J. E. Sweet, John L. Laird and A. A. Uhle, Philadelphia.

8. Structural or Fixed Scoliosis and Its Treatment by the Abbott Method.

J. Torrance Rugh, Philadelphia.

Outline. What constitutes fixed scoliosis. Factors influencing the prognosis and selection of method of treatment. Principles of treatment. Essentials to success in the use of Abbott's method.

Discussion opened by James K. Young, Philadelphia.

Wednesday, September 24, 2 p.m.

Reading of Minutes.

Report of Executive Committee.

Election of Section Officers.

9. The End Results of Bone Tuberculosis.

DeForest P. Willard and Frank D. Dickson, Philadelphia.

Outline. Report of 200 cases, giving the results of bed, cast and brace treatment, after a period of five years.

Discussion opened by William J. Merrill, Philadelphia.

10. Craniotomy.

George M. Boyd, Philadelphia.

Outline. History of operation. Popular method of terminating labor before invention of forceps, and frequently resorted to before antiseptic era. An obstetrical operation to-day neglected. Indications and contraindications. When child is dead craniotomy should be performed, not Cesarean section. Method of operating. Results, mortality and morbidity.

Discussion opened by B. C. Hirst, Philadelphia.

11. The Operative Treatment of Fractures.

Edward Martin, Philadelphia.

Outline. Fractures which should always be subject to operative intervention. Indications suggesting operation in borderline cases. Surgical approach to fractures which are becoming more commonly subject to direct fixation. Operative technic; methods of apposition and insuring retention, including fresh bone inserts and plates. Immediate and remote after-treatment. Exhibition of methods, apparatus and lantern slides.

Discussion opened by William S. O. Sherman, Pittsburgh.

12. Carcinoma of the Breast.

John B. Deaver, Philadelphia.

Outline. Vital statistics show an alarming increase in number of deaths from cancer. Prognosis of internal cancer is bad because of great difficulty attendant upon diagnosis and treatment; cancer of skin and its appendages offers an excellent prognosis if promptly recognized and properly treated. Precancerous stage may often be recognized. Trauma, chronic cystic mastitis and beginning growths play a large rôle in causation of cancer of breast; realization of their significance and appropriate surgical treatment will prevent development of a disease which, untreated, is always fatal.

Discussion opened by William L. Rodman, Philadelphia.

13. The Surgical Treatment of Exophthalmic Goiter.

Donald Guthrie, Sayre.

Outline. Thyroid surgery in the past. Present-day methods. Selection of cases. Importance of avoiding operations during periods of intoxication. Estimation of intoxication. Preliminary treatment. Operative treatment. Postoperative treatment.

Discussion opened by J. A. Lichty, Pittsburgh, and C. H. Frazier, Philadelphia.

14. The Transmutation of Tumors.

William L. Estes, South Bethlehem.

Outline. A number of surgeons have reported cases of tumors which have both epithelial and connective tissue malignancy. There are now a number of cases on record in which the patients having had epithelial cancers have developed recurrences either *in situ* or metastatically of sarcoma. Note of a few cases and instances. Theory as regards these recurrences.

Discussion opened by John Speese, Philadelphia.

15. Exploratory Incision as an Aid to Diagnosis.

Raleigh R. Huggins, Pittsburgh.

Outline. Its application should be under proper surroundings and only after careful study by physician, including a complete history, intelligent study of clinical findings and employment and proper interpretation of laboratory aids. Patients who have had obscure abdominal pain without typical symptoms covering a period of years should be exposed to danger of an exploratory incision rather than risk of complications or malignancy which may result if primary lesion is not removed. This applies to all abdominal organs and the treatment of obscure lesions of kidney.

Discussion opened by Sidney A. Chalfant, Pittsburgh.

Thursday, September 25, 9 a.m.

Reading of Minutes.

16. Inflammation of the Female Pelvis with Reference to Bacteriological Smears Made at the Time of Operation to Determine the Necessity of Drainage.

William H. Howell, Altoona.

Outline. Introduction. Distribution of pelvic lymphatics. Mode of invasion: Gonococcus shows predilection to involvement of the Fallopian tubes;

streptococci and staphylococci, the broad ligament: the bacillus coli infections. Fruitless efforts to drain a gonorrheal tube on account of its mucosa. Advantage gained by making preliminary paracentesis of broad ligament infections. Results obtained by making smears at time of operation in Altoona Hospital. Conclusions.

Discussion opened by Brooke M. Anspach, Philadelphia.

17. Report of Commission on Cancer of the Uterus. Edward A. Weiss, Pittsburgh.
Discussion opened by George Erety Shoemaker, Philadelphia.

SYMPOSIUM: GASTROENTEROPTOSIS.

18. The Real Significance of Visceroptosis.
Joel E. Goldthwait, Boston, Mass.

Outline. Abdominal visceroptosis is a general condition and does not concern a single organ. The special trouble may result from way body is used rather than from mere peculiarity of position of the organ. Special organ involved is apparently a mere matter of accident. Point of first importance in treatment of such conditions is recognition of general condition and appreciation of the fact that the organs can not work rightly until the body is so remodeled that the normal space exists in which the organs can work; importance of recognizing and treating these cases during childhood.

19. The Treatment of Gastroptosis.
Henry D. Beyea, Philadelphia.

Outline. Discussion of indications for operation of elevation of stomach. Review of literature on surgical procedures practiced, with short description of more important methods. Author's method as modified and now performed. Statistical study of cases reported in literature and those operated upon by author.

20. Treatment of Colonic Stasis.
John G. Clark, Philadelphia.

Outline. Ultimate results in seven cases of colectomy. As demonstrated by these cases, this operation should be done only in rare instances, for it carries considerable operative risk and does not offer the remarkable relief claimed for it. Every case should be studied accurately before this operation is performed and its only indication is severe obstruction emanating from the colon. Not to be advised for constipation even of severe degrees if it can be controlled by medical means.

21. The Skiagraph in the Diagnosis of Gastroenteroptosis.
Henry K. Pancoast, Philadelphia.

Outline. Necessity for familiarity with normal anatomic relations, normal radiographic appearances, and the range of variations of both within normal limits. Radiographic indications of gastroptosis, and of factors concerned therein. Effects of condition upon functions of stomach. Suggestions offered as to treatment and results of treatment.

Discussion on symposium opened by David Silver, Pittsburgh; Joseph Sailer and John H. Gibbon, Philadelphia, and George C. Johnston, Pittsburgh.

Reading of Minutes.

Final Adjournment.

SECTION ON EYE, EAR, NOSE AND THROAT DISEASES.

Officers of Section.

Chairman Chevalier Jackson, 1018 Westinghouse Building, Pittsburgh.

Secretary—Clarence M. Harris, 604 Johnstown Trust Building, Johnstown.

Executive Committee—G. Hudson-Makuen, Philadelphia; William F. Robeson, Pittsburgh; Wendell Reber, Philadelphia.

Tuesday, September 23, 2 p.m.

1. Opening Address by the Chairman.
Chevalier Jackson.

CLINICAL AFTERNOON.

2. The Importance of Precise Determination of Ocular Filtration.
John T. Carpenter, Philadelphia.

3. Chemical Reactions of Nasal Secretions.
Julius E. Gross, Pittsburgh.

4. The Newer Operations for Glaucoma.
L. Webster Fox, Philadelphia.

5. Demonstration of Defects of Speech.
G. Hudson-Makuen, Philadelphia.

6. Some Further Experiences in the Extraction of Immature Cataract by the Homer C. Smith Method.
Howard F. Hansell, Philadelphia.

7. The Endoscopic Treatment of Bronchiectasis.
Emma E. Musson, Philadelphia.

8. A Study of the Ocular Tensions in One Hundred Cases with the Tonometer of Both Schiotz and Stephenson.
Wendell Reber, Philadelphia.

9. Practical Differential Tests of the Hearing.
B. Alexander Randall, Philadelphia.

10. Demonstration of Eye Cases.
Samuel D. Risley, Philadelphia.

11. Enlarged Tonsils, with Report of a Pair of Extraordinary Size; Apparently the Largest on Record.
Ben Clark Gile, Philadelphia.

Discussion opened by McCluney Radcliffe and George W. Mackenzie, Philadelphia.

Wednesday, September 24, 2 p.m.

Reading of Minutes.

Report of Executive Committee.

Election of Section Officers.

12. The Eustachian Tube.
G. R. S. Corson, Pottsville.

Outline. A plea for more attention to treatment of the tube itself in middle-ear diseases; review of some of the more recent operations on the same. Attention should be given to anatomical variations, particularly the pharyngeal opening, which influences the patulency of the tube.

Discussion opened by George M. Coates, Philadelphia.

13. Early Recognition of Mastoid Disease and Early Operative Procedures to Prevent Loss of Hearing.
Howard F. Pyfer, Norristown.

Outline. Waiting until posterior wall sags or there is a periosteal bulging abscess is not always wise. In most profuse discharges from external canal mastoid is already involved, amount of discharge being as a rule evidence that mastoid cells are diseased. Some cases recover with flushing and astringent applications but many go on to involvement of all cells of mastoid or to chronicity. Simple mastoid operation is practically free from danger if a burr is used to remove external bony wall, if cells are opened and curetted, and if a true blood clot dressing after method of Reik is employed. Recovery is rapid with no painful after dressings. Hearing remains good. Older conservative method does not produce such quick healing with freedom from pain and anxiety and with no injury to hearing apparatus.

Discussion opened by Ralph Butler, Philadelphia.

14. An Unusual Streptococcic Infection Complicating Double Pneumonia.

M. Delmar Ritchie, Pittsburgh.

Outline. Embracing double myringotomy, double mastoidectomy, lumbar puncture, jugular resection, lateral ventricul drainage, lateral and cavernous sinus thrombosis, erysipelatous cellulitis of scalp, and tonsillitis. Recovery.

Discussion opened by George W. Simpson, Pittsburgh.

15. Axial Myopia, Etiology and Prophylaxis.

Luther C. Peter, Philadelphia.

Outline. An economic problem in a measure preventable. Morbid anatomy and pathology. Predisposing factors are anatomic construction of eyeball, and heredity. Determining causes are lowered vitality, uncorrected astigmatism, insufficient light, constant close work. Prevention of progress. Statistics show axial myopia is not on the decrease; among other factors, because of inefficient medical inspection of public schools and factories, with reference to lighting facilities, and to defective vision. Influence of home work. Lack of individuality in school room. Remedy: Efficient medical inspection of each individual and compulsory refraction of individuals suffering from defective vision in school and factory; special classification of myopic school children, with suitable modification of studies, omitting home work; proper building construction of school and factory.

Discussion opened by Wendell Reber, Philadelphia.

16. Report of the Commission on Conservation of Vision.

William Campbell Posey, Philadelphia.

Outline. Organization of the committee. Selection of leaders in industrial corporations. So-called Optometry Bill defeated. Activities of commission for coming year largely toward ophthalmia neonatorum. Enforcement of recent law which makes the disease reportable. Proper ophthalmic treatment for the disease. Bearing of recently enacted law regulating midwives. Best means of eradicating trachoma. Adoption of proper standards of vision for all employees of public service corporations. Coöperation with industrial corporations. Educational textbooks. Organization of a state society for the conservation of vision under control of the commission; lay as well as medical membership. Endeavor to educate the public by lectures, circulars, etc. Approval of ophthalmologists. Schools urged to make provision for a longer course in ophthalmology.

Discussion opened by Burton Chance, Philadelphia.

17. The Prosecution and Conviction of a Malingerer, on Strength of an Ophthalmoscopic Examination.

Joseph E. Willetts, Pittsburgh.

Outline. Special reference to the prerogatives of medical expert. Progress in everything except application of the law. Court methods obsolete. Complacent judges. Juries vindictive or emotional. Misconstruction of testimony by purposeful questioning of unprincipled attorneys. Report of a case in which verdict was annulled on strength of an ophthalmoscopic examination.

Discussion opened by William Campbell Posey, Philadelphia.

18. Report of Two Cases; "Metastatic Choroiditis."

Edward Stieren, Pittsburgh.

Outline. Report of a case of general streptococcic infection with metastatic suppurative choroiditis of both eyes; pus aspirated from vitreous yielded a pure culture of streptococci; fatal outcome in seven days. "Gliosarcoma of retina with recurrence in antrum of Highmore." Death. Exhibition of specimen.

Discussion opened by G. Oram Ring, Philadelphia

Thursday, September 25, 9 a.m.

Reading of Minutes.

19. Some Ocular Disturbances of Nasal and Accessory Sinus Origin.

Nelson S. Weinberger, Sayre.

Outline. Accessory sinuses sometimes at fault in ocular affections and such cause is frequently overlooked. Ophthalmologist should be a competent rhinologist or have aid of one. Intraocular circulation and nerves may be affected by disordered sinuses through continuity, contiguity or reflex irritation. Ocular tunics and ocular muscles may be diseased as a result of sinusitis. Intractable asthenopia often relieved by nasal attention. Diseased cells often difficult of detection. Illustrative cases cited.

Discussion opened by Mary Buchanan, Philadelphia.

20. Salvarsan and Neosalvarsan in the Treatment of Syphilis with Special Reference to Syphilitic Disease of the Eye.

Alexander A. Uhle and William H. Mackinney, Philadelphia.

Outline. Effect of salvarsan and neosalvarsan in primary syphilis. Value of early diagnosis and treatment with salvarsan and neosalvarsan. A comparative study of the immediate effects and curative value of salvarsan and mercury in secondary, tertiary and hereditary syphilis. An analysis of fifty cases of syphilitic involvement of the eye treated with salvarsan and neosalvarsan, with case reports.

Discussion opened by S. Lewis Ziegler, Philadelphia.

21. Gangrene of the Tonsil with Report of a Case.

Christopher C. Sandels, Pittsburgh.

Outline. Rarity of gangrene of tonsils. Rapid and extensive involvement of both tonsils; death five days after onset of throat symptoms.

Discussion opened by Claude P. Brown, Philadelphia.

22. The Routine Use of the Tracheobronchoscope as a Diagnostic and Therapeutic Measure.

Ross Hall Skillern, Philadelphia.

Outline. General remarks on the routine use; case, indications, dangers. Report of special cases: Post diphtheritic paralysis, trachitis and bronchitis, tumors, asthma, abscess in lung, tuberculosis.

Discussion opened by Chevalier Jackson, Pittsburgh.

23. One Hundred Enucleations and the Lesson.

Edward B. Heckel, Pittsburgh.

Outline. A study of enucleations done by the writer during the last few years. Why enucleations were necessary and what might have been done to have prevented them.

Discussion opened by John B. McMurray, Washington.

24. Acute Edematous Laryngitis.

John F. Culp, Harrisburg.

Outline. Definition, septic in origin. May occur primarily; more often in connection with infectious inflammations of neighboring structures. Frequently impossible to differentiate between this disease and the "angioneurotic edema" of Quinke. In latter condition there is often existing at the time either a subacute or chronic laryngitis. Pathology. Generally due to streptococcic infection. Symptoms sudden and severe. Treatment: Medicinal, free purgation, sweating, medicated vapors; surgical, puncture or incision of swollen tissues, application of astringent drugs, tracheotomy. Citation of clinical cases.

Discussion opened by E. Baldwin Gleason, Philadelphia.

25. Intra- and Extranasal Indications for Submucous Resection of Septum.

Homer McCready, Pittsburgh.

Outline. Since all septums are more or less deviated, which ones shall we select for submucous resection? Some of intranasal indications are those marring the cosmetic effect; those obstructing respiration; those obstructing nasal and accessory sinus drainage; those causing pressure symptoms. Extranasal: Those causing chronic inflammatory conditions in nasopharynx, pharynx and larynx; those causing or aggravating otological conditions, with special stress on old chronic suppurative conditions of middle ear.

Discussion opened by G. C. Kneedler, Pittsburgh.

Reading of Minutes.

Final Adjournment.

MANAGEMENT VERSUS DRUGS.

Now of the difficulties bound up with the public in which we doctors work, I hesitate to speak in a mixed audience. Common sense in medical matters is rare, and is usually in inverse ratio to the degree of education. I suppose as a body, clergymen are better educated than any other, yet they are notorious supporters of all the nostrums and humbuggery with which the daily and religious papers abound, and I find that the farther away they have wandered from the decrees of the council of Trent, the more apt are they to be steeped in the thaumaturgic and Galenical superstitions. But know also, man has an inborn craving for medicine. Heroic dosing for several generations has given his tissues a thirst for drugs. As I once before remarked, the desire to take medicine is one feature which distinguishes man, the animal, from his fellow creature. It is really one of the most serious difficulties with which we have to contend. Even in minor ailments which would yield to dieting or to simple home remedies, the doctor's visit is not thought to be complete without the prescription, and now that the pharmacists have cloaked even the most nauseous remedies, the temptation is to use medicine on every occasion, and I fear we may return to that state of polypharmacy, the emancipation from which has been the sole gift of Hahnemann and his followers of the race. As the public becomes more enlightened, and as we get more sense, dosing will be recognized as a very minor function in the practice of medicine in comparison with the old measures of Asclepiades.—**Osler.**

SYSTEMATIC STUDY.

In no single relation of life does the general practitioner show a more illiberal spirit than in the treatment of himself. I do not refer so much to careless habits of living, to lack of routine in work, or to failure to pay due attention to the business side of the profession—sins which so easily beset him—but I would speak of his failure to realize first, the need of a lifelong progressive personal training, and secondly, the danger lest in the stress of practice he sacrifice that most precious of all possessions, his mental independence. Medicine is a most difficult art to acquire. All the college can do is to teach the student principles, basal facts in science, and give him good methods of work. These simply start him in the right direction, they do not make him a good practitioner—that is his own affair. To master the art requires substantial effort, like the bird's flight which depends on the incessant action of the wings, but the sustained effort is so hard, that many give up the struggle in despair; and yet it is only by persistent intelligent study of disease upon a methodical plan of examination that a man gradually learns to correlate his daily lessons with the facts of his previous experiences and that of his fellows, and so acquires clinical wisdom.—**Osler.**

ANTIVIVISECTION.

Some dozens of letters have come to us all at once, asking us to be fair in the vivisection controversy and to give "both sides." Some of these letters inform us that the writers will subscribe to this *Weekly* if we are fair, but not if we pursue a course hostile to the antivivisection crusade.

We have no intention of giving both sides. On the contrary, the support of the cause of scientific medical progress will be one of the things to which we shall be energetically devoted. We shall no more give both sides of the argument on experiment than we shall give both sides of the question of whether the household fly shall be encouraged in the dining room, or sewers emptied into the city reservoir, or swamps kept for the breeding of mosquitoes, or smallpox patients permitted to ride on the street-cars. We shall be extremely bigoted on the subject, and shall hope that the day will soon come when cancer will be added to the great diseases that have yielded to investigation.—*Harper's Weekly*, Aug. 10, 1913.

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ORIGINAL ARTICLES.

THE EFFECTS OF THE INGESTION OF VARIOUS OILS UPON THE LEUKOCYTIC PICTURE IN PULMONARY TUBERCULOSIS.

BY MYER SOLIS-COHEN, A.B., M.D.,
Pediatrist to the Jewish Hospital of Philadelphia, and to the Philadelphia Jewish Sanatorium for Consumptives at Eaglesville, Pa.; Consulting Physician to the Home for Consumptives, Chestnut Hill, Pa.; Assistant Visiting Physician to the Philadelphia General Hospital, Philadelphia.

AND ALBERT STRICKLER, M.D.,
Instructor in Dermatology at Temple University; Pathologist to the Philadelphia Jewish Sanatorium for Consumptives at Eaglesville; Dermatologist to the Douglas Memorial and Northeastern Hospitals; Clinical Assistant in Dermatology, Philadelphia Polyclinic Hospital, Philadelphia.

(Read in the Section on Medicine of the Medical Society of the State of Pennsylvania, Scranton Session, September 26, 1912.)

Oils have long been popular remedies in the treatment of pulmonary tuberculosis. Indeed, at one time cod-liver oil was regarded almost as a specific in this disease. The addition of olive oil to the consumptive's diet has been a common practice. One of the manufacturing chemists has put on the market an emulsion of butter fat, beef fat, olive oil, lard and peanut oil with proteids and carbohydrates, from the use of which good results are claimed. An emulsion of purified crude petroleum and glycerin has been much lauded by several manufacturers as of service in tuberculosis. My father, Dr. J. Solis-Cohen, tells me that the plantation negro used to be considered immune to tuberculosis, owing to his habit of chewing cotton seeds and thus extracting the oil from them.

Heretofore there has been no accurate method of determining whether a therapeutic agent is of definite value in tuberculosis. The personal equation of both physician and patient enters into a purely clinical observation as to the effect of any particular method of treatment. During the past three years, however, we have been making a series of observations which tend to show that improvement in a tuberculous subject is usually associated with certain fairly definite changes in the leukocytic picture, namely, an increase in the proportion of lymphocytes and, less constantly, in the proportion of polymorphonuclear neutrophiles containing one and two nuclei (the first two classes of Arneth).[1] At the meeting of this society in Pittsburgh two years ago we demonstrated the effect of the leukocytic picture of such therapeutic measures as Bier's hyperemia, blisters, and the oral administration of iodoform, creosote carbonate and nuclein.[2] More recently we have shown the effects produced on the leukocytic picture by the giving of tuberculin by the mouth[3] and by the employment of graduated work.[4]

The present investigation was undertaken for the purpose of determining whether the leukocytic picture is affected by the ingestion of oil and whether it is affected differently by different oils. The fact that the ingestion of oils is supposed to produce a digestive lymphocytosis made us think it possible to obtain some information from the blood.

Thirteen patients were given various oils;

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[1] *Am. Jour. of the Med. Sci.*, 1911, CXLII., p. 691.
[2] *Boston Med. and Surg. Jour.*, 1911, CLXV., p. 563.
[3] *N. Y. Med. Jour.*, 1912, XCV., p. 53.
[4] Trans. Nat. Asso. for the Study and Prevention of Tuberculosis, 1912, p. 424.

three were given cod-liver oil, two olive oil, three cotton-seed oil, three emulsion of petroleum, and two an emulsion of beef fat, butter fat, olive oil, lard and peanut oil with proteids and carbohydrates. They were patients at the Philadelphia Jewish Sanatorium for Consumptives at Eaglesville, situated about six hundred feet above sea level, and at the Home for Consumptives at Chestnut Hill, situated about five hundred feet above sea level. We classify our patients according to the schema adopted by the National Association for the Study and Prevention of Tuberculosis and also according to Turban's schema. We further divide third-stage patients into those capable of working and those incapacitated, the latter being subdivided into those nontoxic and those toxic.

The one who examined the blood never saw the patients, did not know what they were taking, nor when they began or ended treatment. In this way we hoped to eliminate the personal equation.

The blood was stained with eosin and hematoxylin. The leukocytes are divided into polymorphonuclear neutrophiles, which are subdivided according to the number of nuclei they contain, as suggested by Arneth; lymphocytes, by which we mean mononuclear cells whose nucleus is larger than the surrounding protoplasm; mononuclear cells, whose nucleus is smaller than the surrounding protoplasm; transitional cells; and eosinophiles.

The two adult patients on olive oil improved, although the improvement is by no means necessarily attributable to the oil they received. In both there was a slight decrease in the first two classes of Arneth, while the lymphocytes were also diminished, moderately in one and slightly in the other.

Of the three adult patients taking cod-liver oil two improved. In these the first two classes of Arneth were unchanged or very slightly augmented at first and then were markedly decreased, a slight increase following in one. In the unimproved patient there was a moderate decrease in the percentage of these cells. The lymphocytes were moderately diminished and then markedly increased in one; markedly increased, then moderately decreased and later similarly increased in another; and markedly diminished in the third.

Three children who took cotton-seed oil said they felt better while taking it. The first two classes of Arneth at first were moderately increased in one, moderately diminished in another, and very slightly diminished in the third; these were followed in all by a marked or very marked fall, which in the third was again followed by a moderate rise. The lymphocytes were markedly increased in all, although at first the increase was slight in one and preceded by a slight diminution in another. This was followed by a slight increase in one and by a moderate decrease in two, a very slight increase supervening in one of these.

Two adults and a child were given petroleum emulsion, with some improvement of the symptoms in two and no change in one—an adult. In both adults the first two classes of Arneth were slightly augmented, while in the child there was a slight fall, followed by a very marked fall. The lymphocytes were slightly diminished in the unaffected adult, in whom the medicine produced nausea, moderately increased in the benefited adult, and slightly diminished in the child when the medicine caused vomiting, followed by a very slight rise as the dose was reduced.

Two children, who were given an emulsion of beef fat, butter fat, olive oil, lard and peanut oil with proteids and carbohydrates, said they felt better while taking the medicine. In both there was a marked and a very marked diminution in the first two classes of Arneth, preceded by a slight decrease in one and a slight increase in the other. The lymphocytes were moderately diminished in one despite an increase in the dose, and were slightly diminished at first in the other with the first small dose, but became markedly augmented as the dose was increased.

Of the thirteen patients given oils the first two classes of Arneth were diminished in eleven and increased in two; the lymphocytes were augmented in seven and decreased in six.

There was a diminution in the percentages both of lymphocytes and of polynuclear cells containing one and two nuclei in all the patients taking olive oil. There was an increase in the percentage of lymphocytes in all but one and a decrease in the first two classes of Arneth in all the patients taking cod-liver oil and cottonseed oil. Of the three patients taking emulsion of petroleum the lymphocytes were increased in one and diminished in two, while the polynuclear cells with one and two nuclei were increased in two and diminished in one. In both the patients taking an emulsion of beef fat, butter fat, olive oil, lard and peanut oil with proteids and carbohydrates, the first two classes of Arneth were diminished, the percentage of lymphocytes being augmented in one and lessened in the other.

It is impossible to draw conclusions from thirteen cases and certainly from two or three cases. It would seem as though the ingestion of oils in itself has no decided effect on the proportion of lymphocytes in the blood and hence upon the resistive power of the patient (if we regard the proportion of lymphocytes as an index of the resistive power). The taking of oils, however, does seem to diminish the proportion of polynuclear cells with one and two nuclei, a sign of improvement according to most observers but not according to our previous work. It is suggestive that all the patients taking cod-liver oil and cottonseed oil showed an increase in the proportion of lymphocytes, with one exception, and a decrease in the first two classes of Arneth.

The blood counts of each patient are given below with charts showing in graphic form the changes in the proportion of lymphocytes and polymorphonuclear cells and of those of the latter containing one and two nuclei.

PATIENTS TAKING COD-LIVER OIL.

Case 1. C. S., female, aged thirty-four years, third stage, class 3, improving, capable. On July 1 the patient was given one tablespoonful of cod-liver oil three times daily. There was no immediate rise in the proportion of lymphocytes with a corresponding fall in the proportion of polymorphonuclear leukocytes as a whole and later of those containing one and two nuclei, all of which were maintained fairly well for at least a month. For the blood counts see table appended.

Case 2. L. S., female, aged twenty-nine years, first stage, class 1, improving, capable. The patient took half an ounce of cod-liver oil three times daily from July 1 to August 7. During the first three weeks there was a slight drop in the proportion of lymphocytes at the expense of the polymorphonuclears, followed by a marked rise. The first two classes of Arneth diminished markedly after the first week. The blood counts are appended.

Case 3. F. T., female, aged twenty-seven years, third stage, class 1, progressive, incapacitated, nontoxic. The patient was given an emulsion of cod-liver oil on April 17. There was a marked fall in the proportion of the lymphocytes, with a corresponding rise in the polymorphonuclears, and a moderate fall in the percentage of the first two classes of Arneth, as will be seen from the appended table.

PATIENTS TAKING OLIVE OIL.

Case 4. N. S., male, aged twenty-nine years, third stage, class 3, improving, capable. The patient took one tablespoonful of olive oil three times daily from July 14 to July 22. During this week there was a slight drop in the percentage of lymphocytes and of the polymorphonuclear leukocytes with one and two nuclei, the proportion of polymorphonuclear cells as a whole showing a slight increase. The differential count is given in the appended table.

Case 5. M. K., male, aged thirty-nine years, first stage, class 1, improving, capable. The patient was put on olive oil July 1 in half-ounce doses three times daily. On July 21 he had a purulent otitis media. On this day the proportion of lymphocytes and of the first two classes of Arneth were somewhat less and that of polymorphonuclear leukocytes somewhat greater than on the day treatment was commenced. The blood picture showed proportions as given in the table.

PATIENTS ON COTTON-SEED OIL.

Case 6. G. M., female, aged seven years, third stage, class 3, progressing, incapacitated, nontoxic. The child was put on half an ounce of cotton-seed oil on July 21, and seemed better while taking the oil. The proportion of lymphocytes showed at first a very slight decrease, then a marked increase, followed by a moderate decrease and again a slight increase. The course of the polymorphonuclear cells was exactly opposite. The first two classes of Arneth showed a very marked diminution followed by a moderate increase. The blood counts are recorded below.

Case 7. L. B., female, aged nine years, second stage, class 1, stationary. On July 21, cotton-seed oil was given, a tablespoonful three times a day. The lymphocytic curve showed a steady rise and the polynuclear curve a steady fall. The proportion of polynuclear cells with one and two nuclei was first moderately increased and then markedly diminished. The blood picture is given in the appended table.

Case 8. R. K., female, aged eight years, first stage, class 1, improving. The girl was given cotton-seed oil on July 21, the dose being half an ounce thrice daily. The child felt better after taking the oil and had a better appetite. There was at first moderate increase in the proportion of lymphocytes at the expense of the polynuclear cells, followed by a slight diminution. There was a steady decrease in the first two classes of Arneth, slight at first and then marked. The blood pictures are appended.

PATIENTS TAKING PETROLEUM OIL.

Case 9. M. C., female, aged thirty-eight years, third stage, class 3, progressive, incapacitated, toxic. The patient took emulsion of petroleum from April 12 to June 6, during which time the cough was better, the paroxysms being fewer and less severe than previously. There was a decrease in the percentage of lymphocytes and of polymorphonuclear cells containing one and two nuclei. For the differential count see table appended.

Case 10. R. G., male,, aged forty-five years, third stage, class 3, stationary, capable, nontoxic. This patient took oil of petroleum for ten days beginning about April 8 with no clinical effect except the production of nausea. There was a slight fall in the lymphocytic curve and a corresponding rise in the polynuclears as a whole and in those containing one and two nuclei. His blood count is contained in the table.

Case 11. H. B., male, aged eight years, first stage, class 1, stationary. On July 21 the boy was given two drams of emulsion of petroleum three times a day, reduced to one dram on account of vomiting and stopped August 25. The percentage of lymphocytes was first slightly diminished and then very slightly increased at the expense of the polymorphonuclears. The first two classes of Arneth were decreased, at first slightly, then markedly. The blood picture is given in the table.

PATIENTS TAKING AN EMULSION OF BEEF FAT, BUTTER FAT, OLIVE OIL, LARD AND PEANUT OIL.

Case 12. J. C., male, aged thirteen years, first stage, class 1. On August 8 the patient was given the emulsion in dram doses three times daily with a twenty minim increase every second day until August 24, after which the dose was half an ounce thrice daily. He felt better and could eat better after taking the oil. The percentage of lymphocytes at first diminished slightly and then increased markedly at the expense of the polymorphonuclears as a whole. The percentage of the latter with one and two

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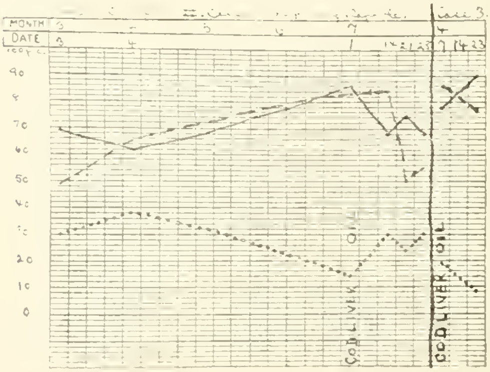
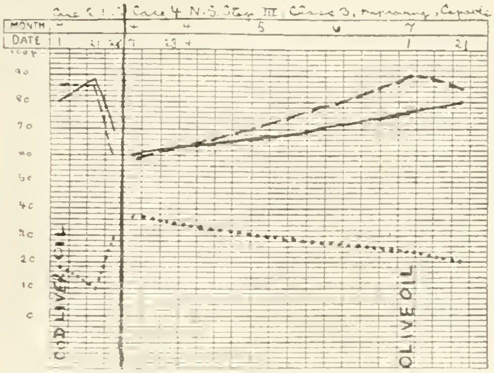
KEY TO CHARTS.

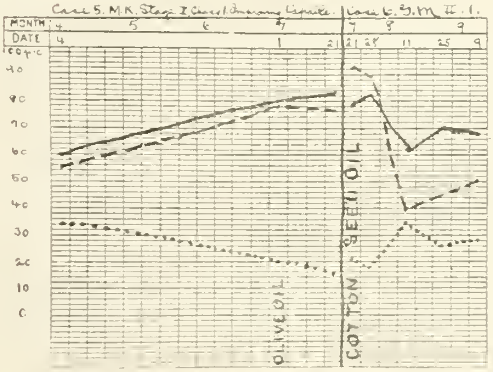
Lymphocytes ....

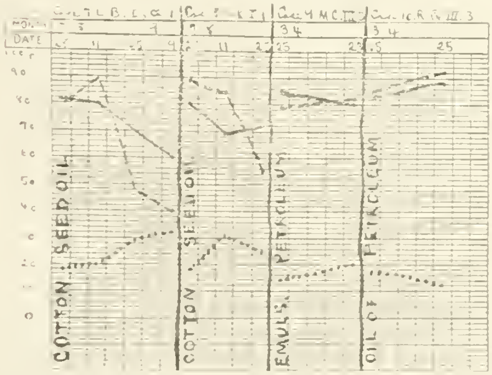
Polymorphonuclears ———

Polymorphonuclears containing one and two nuclei (first two classes of Arneth)--------









nuclei at first increased slightly and then decreased very markedly. The blood count is given in the table.

Case 13. J. S., male, aged six years, first stage, class 1. The emulsion was begun on August 8 with a teaspoonful three times a day, the dose being gradually increased until August 24, after which it remained at a tablespoonful. The percentage of the lymphocytes and of the first two classes of Arneth showed a marked decrease, as will be seen from the count given in the table.

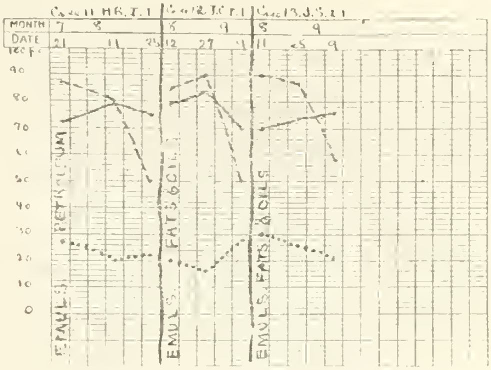


TABLE OF BLOOD COUNTS.

Date, 1912.	Polymorphonuclears.	I., II., III., IV., V.	Lymphocytes.	Mononuclears.	Eosinophiles.	Transitionals.
		Case 1, C. S.				
March 3.	69	10, 39, 51, 0, 0	30	0	0	1
April 4.	62	5, 60, 35, 0, 0	38	0	0	0
July 1.	86	19, 64, 17, 0, 0	14	0	0	0
July 14.	68	20, 64, 16, 0, 0	30	0	0	2
July 21.	75	8, 42, 50, 0, 0	24	0	0	1
July 28.	68	10, 45, 45, 0, 0	30	2	0	0
		Case 2, L. S.				
July 1.	80	6, 80, 14, 0, 0	18	0	0	2
July 21.	88	6, 80, 14, 0, 0	10	0	0	2
July 28.	69	9, 51, 40, 0, 0	29	2	0	0
		Case 3, F. T.				
April 7.	78	6, 80, 14, 0, 0	19	0	0	3
April 23.	90	4, 73, 23, 0, 0	8	1	0	1
		Case 4, N. S.				
April 4.	60	10, 49, 41. 0, 0	37	1	0	2
July 1.	76	10, 80, 10, 0, 0	24	0	0	0
July 21.	80	10, 75, 15, 0, 0	20	0	0	0
		Case 5, M. K.				
April 4.	60	5, 50, 45, 0, 0	34	4	1	1
July 1.	80	13, 65, 22, 0, 0	20	0	0	0
July 21.	83	13, 63, 24, 0, 0	15	0	0	2
		Case 6, G. M.				
July 21.	78	12, 80, 8, 0, 0	21	1	0	0
July 28.	82	10, 79, 11, 0, 0	18	0	0	0
Aug. 11.	62	8, 32, 55, 5, 0	35	2	0	1
Aug. 25.	70	20, 25, 55, 0, 0	26	3	0	1
Sept. 9.	68	15, 35, 50, 0, 0	28	4	0	0
		Case 7, L. B.				
July 28.	81	3, 77, 20, 0, 0	18	1	0	0
Aug. 11.	80	4, 85, 11, 0, 0	20	0	0	0
Aug. 25.	70	10, 38, 51, 1, 0	29	1	0	0
Sept. 9.	60	10, 30, 60, 0, 0	32	6	0	2
		Case 8, R. K.				
July 28.	80	9, 80, 11, 0, 0	18	2	0	0
Aug. 11.	69	8, 77, 15, 0, 0	31	0	0	0
Aug. 25.	72	15, 40, 42, 3, 0	25	1	0	2
		Case 9, M. C.				
March 25.	85	9, 70, 21, 0, 0	14	0	0	1
April 23.	80	7, 75, 18, 0, 0	20	0	0	0
		Case 10, R. G.				
March 25.	83	10, 75, 15, 0, 0	17	0	0	0
April 25.	88	5, 87, 8, 0, 0	12	0	0	0
		Case 11, H. B.				
July 24	72	12, 75, 13, 0, 0	27	0	0	1
Aug. 11	79	8, 72, 20, 0, 0	20	0	0	1
Aug. 25.	75	7, 45, 50, 0, 0	22	2	0	1
		Case 12, J. C.				
Aug. 12	79	10, 75, 15, 0, 0	20	1	0	0
Aug. 27.	83	5, 85, 10, 0, 0	16	1	0	0
Sept. 9.	70	10, 40, 50, 0, 0	28	1	0	1
		Case 13, J. S.				
Aug. 11	70	15, 75, 10, 0, 0	30	0	0	0
Aug. 25.	73	7, 80, 13, 0, 0	26	0	0	1
Sept. 9.	75	9, 49, 42, 0, 0	21	3	0	1

THE EARLY DIAGNOSIS AND TREATMENT OF MENTAL DISEASES.

BY F. X. DERCUM, M.D.,
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(Read before the eighth annual meeting of the Fifth Censorial District of the Medical Society of the State of Pennsylvania, July 24, 1913.)

The prevalence of mental disorders, relatively mild in character and of such a nature, not only to permit, but to necessitate treatment outside of the asylum, is very great, and it is imperative that the general practitioner should be able, not only to recognize, but to treat them adequately. Further, mental cases, like all other affections prevalent in a community, first come under the care of the family physician and their prompt and early recognition often prevents much misfortune in the future both to the patient himself and to his family.

In cases characterized by marked excitement and disturbance, the symptoms are, of course, so pronounced as to lead to the ready recognition of the fact that the patient is mentally disordered and the violence of the symptoms quite commonly necessitates the commitment of the patient to the asylum. The commitment of a patient is, however, a step which is sometimes attended by serious consequences to the physician and the latter should always be sure of his diagnosis. The mere fact that a patient is disturbed and excited does not of itself justify commitment; for the symptoms may not be due to a prolonged attack of mental disease, but merely to a delirium. All of the forms of delirium are of relatively short duration and it is an annoying thing to the physician to find a few days after a patient has been committed, that the delirium clears up and the patient is perhaps dismissed by the asylum authorities. Not only the patient but his friends are apt to criticize the physician for having placed upon the patient and the patient's family the stigma of insanity. Even when a true mania is present, it now and then occurs that the latter is attended by a high degree of lucidity so that the patient remembers in great detail all that has taken place; not infrequently too the excitement may subside to such a degree that it may become impossible for the asylum authorities to hold the patient or to resist successfully his efforts to be released. Both in the instance of delirious and confused states and in the subacute form of mania, *i. e.*, hypomania, the physician is liable to suits for damages, the patient bringing suit as a means of reprisal; and, as a matter of fact, the very friends and relatives of the patient who at first may have been insistent upon commitment now refuse to come to the physician's aid.

Considerations such as these warn the physician to exercise due care in making commitments. In the first place he should never allow himself to be hurried as to commitment. He should always insist upon sufficient time to make a proper examination and at least an approximate diagnosis. Especially is this the case in excited and disturbed cases. He should be able to make a differential diagnosis between a mere delirium and a mania. Delirium, we should remember is characterized by illusions, hallucinations, confusion and hurry of thought, fleeting and fragmentary delusions, unsystematized in character. Mania, on the other hand, is a form of insanity in which the essential and characteristic feature is an expansive emotional state, more or less persistent. The patient is restless, excited and acts emotionally and intellectually as though he were exalted. He may even appear brilliant when compared with his ordinary self. He is in constant motion, his movements are coarse and exaggerated, and his gestures extravagant. His manner is aggressive, his expression animated, his color heightened, his conjunctivæ brilliant. He laughs and frowns in quick transition. He talks incessantly, his thoughts flow with great rapidity, he constantly gives vent to them. He is boastful and declamatory. Hallucinations are conspicuous by their absence. In contrast with delirium, hallucinations form no part of the clinical picture of mania. This is also true of delusions. Although transient ideas of greatness, importance or consequence may manifest themselves, they do not form well defined delusions; they are constantly shifting, constantly changing. Again, instead of being actively confused as in delirium, the patient may present, and frequently does, a high degree of lucidity so that the excitement may constitute the principal feature of the case. The presence of hallucinations, of unsystematized and fragmentary delusions, in other words, of active confusion, exclude a beginning attack of mania.

A delirium has a duration of a few hours, several days or, less frequently, a week or two. A mania on the other hand has a duration lasting over three or more months. It is always of importance in considering commitment to act deliberately and to avoid haste unless the illness from which the patient is suffering be very evident and the urgency very great. In all cases in which the patient is not dangerous or violent, the physician should take sufficient time to satisfy himself thoroughly, first, as to the actual existence of insanity; and, second, as to the advisability of commitment. He should invariably decline to commit whenever any doubt, no matter how slight, arises.

After the diagnosis of insanity has been made, the physician should next consider whether the patient is dangerous to himself or to others. If so, commitment should be advised; other things equal, commitment should be advised when it is evident that the treatment can not be carried on satisfactorily outside of an institution. Whenever the decision to commit has been reached, the patient should be watched carefully. This duty usually devolves upon the members of the family or it may be wise for the time being to employ a trained nurse, though this course is usually not necessary. The transfer to the asylum should be accomplished as soon and as expeditiously as possible. In the interval no treatment whatever should be instituted. Only exceptionally is it necessary to give some sedative to moderate the excitement. Here the rule should be followed to give the milder drugs, *i. e.*, those which are not attended by much depression. However, drugs had best be avoided or resorted to only in emergency, as, for example, when we have to choose between their use and gross physical restraint.

The cases which should not be committed to asylums comprise the various transient deliria, mild melancholia, some cases of hypomania, some cases of dementia præcox, mild and harmless paranoia, the neurasthenic-neuropathic insanities, *i. e.*, the psychasthenias, and finally some forms of dementia, such as mild senile dementia. Actively disturbed and agitated cases of melancholia, typical persecutory paranoia, pronounced and typical cases of dementia præcox and many other forms of dementia, of course, require asylum commitment.

The treatment of mental diseases is based upon general principles. These embrace in large part simple physiological procedures such as improve the general condition, restore strength, and favor the elimination of toxins, and, in given cases, the application of psychotherapeutic measures.

The delirium which accompanies the ordinary febrile affections, the various exanthemata and infectious diseases, rarely requires special treatment. The treatment of the underlying disease alone as a rule, concerns the physician. There are, however other forms of delirium which demand active interference. These are grave delirium, which is fortunately very rare; the postfebrile deliria, *i. e.,* the deliria which come on during the convalescent period of the infectious diseases, such as typhoid fever, grip, erysipelas, pneumonia, etc.; and the deliria which follow the abuse of certain poisons, such as alcohol. In considering the deliria, we should bear in mind two underlying pathologic factors: First, nervous exhaustion and, second, the presence of a toxin or of some poison introduced from without. The indications of treatment, therefore, resolve themselves into the elimination of the poison, the maintenance of the nervous strength and the allaying of the excitement as far as may be necessary. As much as possible these indications must be met promptly and simultaneously. The means at our command consist in the administration of liquids in large quantities, the free use of baths, the free administration of nourishment and the administration, when necessary, of nervous sedatives and cardiac stimulants. If fever be present, cold sponging or other forms of cold bathing will assist in allaying the excitement. However, in afebrile cases, such as occur every now and then during the convalescent periods of typhoid fever or pneumonia, the most efficient form of hydrotherapy is a prolonged warm immersion bath. In ordinary household practice a warm immersion bath can be used only exceptionally. It is not practicable, as a rule, to carry a struggling patient to a bath room and subject him to the necessary handling and manipulation. Much more efficacious and much more serviceable is the wet pack. This should be given in the ordinary way, save that the sheet, instead of being dipped in cold water, should be dipped in warm water. After the patient has been thoroughly and closely wrapped, blankets are applied over the sheet and the patient is allowed to remain in the pack for about an hour. If the delirium be violent and measures such as these do not suffice, the patient may expend much strength in his struggles and grave exhaustion may supervene. Under such circumstances it is important to administer sedatives. No well founded objection to their use can be made. As a rule the milder sedatives prove efficacious and, if the patient can be induced to swallow, a dose of trional, twenty grains, or, better still, trional with sulphonal, fifteen or twenty grains of the former with ten or fifteen grains of the latter, should be administered. Occasionally medinal or veronal has a happy effect. If the excitement and struggling be very great, some form of hypodermic medication should be practiced. Under these circumstances it is wise to employ a hypodermic injection of an eighth of a grain of morphin with one two hundredth of scopolamin. If this dose fails of effect, it may be repeated after a reasonable interval. The two drugs, scopolamin and morphin, act together, one reënforcing the other. After such a hypodermic injection, a patient who has previously been struggling usually submits quietly to every manipulation. The wet pack or the bath can now be given with ease and besides the patient is amenable to other procedures, such as the giving of an enema or the giving of liquids by the mouth.

The management of confusion, especially of active confusion is very much like that of delirium. We are, however, confronted by the fact that confusion is usually of very long duration. However, if the means of the patient permit, the case can be treated very successfully outside of the asylum. The question of commitment depends entirely upon the fact whether the patient can be cared for satisfactorily or properly at his own home. In any event, it is wise because of the profound exhaustion present to place the patient in bed. Even cases of mild confusion do better when the plan of bed treatment is carried out. As a rule such cases are quite manageable. Food can usually be administered without much difficulty and the patients permit themselves to be handled and bathed regularly; it is also possible, especially during the period of convalescence, to employ massage. In other words, as far as possible, rest methods can be instituted. Full feeding should, of course, be carried out. Milk, eggs and other readily digested foods should be given in large quantities. Medication should be avoided as far as possible. As a rule medicines are required, if at all, only from time to time. General principles and common sense must guide the practitioner in this respect for no hard and fast rule can be laid down. As regards hypnotics, it is a good plan, when they are necessary, to change from one to the other and then at times to omit them altogether. Especially is this the case when, as in puerperal confusion, the patient is sometimes actively disturbed for many weeks and months. Under these circumstances we should be content if, during critical periods, the patient secures from four to six hours' sleep out of the twenty-four; a sleep from eight to nine hours is not necessary.

A similar management is to be instituted if the patient becomes stuporous. Here again the question of commitment to an institution is one of practicability. If the patient has the means to have nursing and medical attendance at his own home, commitment may be avoided. Like confusion, stupor is of long duration; many weeks and often months pass by before convalescence is established and during this time a supporting treatment must again be carried out. In other words, as much food as possible should be given. Drugs are rarely necessary. Massage may be used during the convalescence. Frequently it is possible to administer very large amounts of milk and raw eggs. Now and then the stupor is so profound as to necessitate forcible feeding. Under these circumstances feeding by means of the nasal or stomach tube is as a rule readily carried out.

Cases of melancholia are especially adapted to rest methods. Quite commonly rest in bed, full feeding and gentle bed bathing can be instituted without much difficulty. However, this is not usually the case with massage or other mechanical procedures. Patients are apt to be disturbed and made nervous by handling and manipulation, though occasionally a tactful and gentle nurse succeeds in getting the patient accustomed to it. There is one fact in regard to melancholia that should make every conscientious physician feel uneasy about his patient and that is the tendency to suicide which is more or less present in every case. Even in the milder forms of lucid melancholia, the tendency to suicide unquestionably exists. Indeed, the existence of melancholia is the explanation of the majority of the suicides of which we read in the daily papers. Self-destruction is best guarded against in the asylum, though it can not be absolutely guarded against even there. Outside of the asylum wall, where our lucid cases of melancholia must necessarily be treated, *i. e.*, those which can not be committed to an asylum, every possible protection must be thrown about the patient. Two nurses, one relieving the other, should be placed in charge of the patient or the coöperation of relatives must be secured and the importance of the utmost watchfulness must be impressed upon them. In melancholia the patient, as is well known, usually suffers from a loss of appetite which is very pronounced and which frequently leads to the refusal of food. Sometimes it is possible to persuade the patient to eat; at other times, to swallow the food automatically if it is placed in his mouth. Not infrequently, persuasion, the cup and spoon are all that is necessary. Now and then, however, we are forced to resort to forcible feeding. Nasal feeding is here again the most practicable and as a rule the most satisfactory. The question not infrequently arises as to how long it is wise to wait before instituting forcible feeding. If the patient has for a long time been taking a grossly insufficient amount of food, if he has lost weight decidedly, it is not wise to wait until he refuses food absolutely, but to resort to forcible feeding before emaciation becomes serious or pronounced. If the patient has been taking some, though an insufficient amount of food, we can wait with safety two or three days; if he is well nourished and is still drinking water, it may be safe to wait a week or even longer. A patient under such circumstances should, of course, be under close observation. It is possible, for a patient in a state of good nutrition to go without food for a long time but it is unnecessary to run any risk, and it is good practice to feed after three days. The amount of the feeding at first should be small, a pint or less. Later this may be increased to a pint and a half, to a quart or even more. This feeding should take place twice daily. In my judgment the food should consist of milk and raw eggs; at times a broth or a soup may be substituted. From time to time orange juice should be given. Nutritive enemata are as a rule very unsatisfactory. It is unusual for cases of melancholia of such a character as to permit of treatment outside of the asylum to present serious difficulties. Quite commonly simple rest methods and watchful care suffice. Sometimes even partial rest methods prove to be entirely adequate. In such cases the patient does not remain in bed continuously but rises late, lies down during the middle of the day and retires early at night.

As regards dementia præcox, the milder cases not infrequently prove amenable, as already pointed out, to treatment outside of the institution. It is a wise plan as a rule to submit the patient to a radical course of rest treatment and to make every possible effort to force up the nutrition to the highest possible level. The fact that so many patients having dementia præcox die of tuberculosis, especially of abdominal tuberculosis, is a sufficiently strong indication of the wisdom of such a course. As a matter of fact, the gain in body weight is, under rest methods and full feeding, often remarkable, sometimes as much as twenty pounds in a month. Later when the evidences of gross impairment of nutrition have in a measure been successfully combated, recourse to efforts of reëducation and retraining may be had. Taking up some occupation, some employment or various psychotherapeutic procedures may be resorted to.

Cases of acute mania of course demand asylum commitment. The milder cases, however, those termed hypomania, frequently necessitate care outside of the institution. The patients are frequently so lucid that their restraint in an institution becomes impracticable. They are as a rule difficult to control, can not be subjected to ordinary rest methods because of their restlessness and require the constant and watchful care of attendants or of members of the family. Such patients not infrequently resent all interference and are very difficult, indeed at times, impossible to control. As far as possible, however, the same physiological methods already outlined should be instituted. Frequent warm bathing, full feeding, the use, when necessary, of sedatives, gentle exercise and massage, should be carried out.

In the psychoneuroses, *i. e.*, the neurasthenic-neuropathic group of mental diseases, commonly spoken of as psychasthenia, rest methods find a fruitful field. The patients in such cases are always so lucid, that it is rarely, if ever, possible or justifiable to commit them to an asylum. The facts that confront us are as follows: The patient suffers from an inherent neuropathy and this neuropathy is complicated by a nervous exhaustion which is more or less profound. The neuropathy presents itself in various special forms. As is well known, it manifests itself in the insanities of the special fears, the phobias, the obsessions, the anxiety psychoses, the insanity of indecision, the insanity of doubt, the insanity of deficient inhibition, the various forms of imperative movements, tics and the like and finally in the form of the insanity of deficient will. Here more than in any other field are rest methods indicated. The latter should be instituted in the most radical manner whenever the patient's circumstances permit. The patient should be placed in bed, full feeding, gentle bathing and massage should be carried out elaborately and systematically, but above all the patient should be submitted to absolute isolation. The rest should be made as nearly complete as possible and should embrace not only physical rest, but above all mental rest. All sorts of mental and emotional excitement should be rigidly excluded. It is not necessary to enter into the discussion of the feeding, of the bathing, of the massage necessary under such circumstances. Suffice it to say that the details must be carried out elaborately. Everything should be done by means of the full feeding and other measures to bring the general health of the patient up to the highest possible level. Sooner or later, if the details of the treatment are properly carried out, various changes are noted in the patient, provided, of course, the case has progressed favorably. It is noted that the patient increases in weight. The muscles become firm, the extremities cease to be cold and the color of the patient begins to improve. Instead of being nervous and apprehensive, the patient gradually becomes placid and contented. Nervousness and restlessness give way to quiet and the increasing sense of physical well-being. Sooner or later the opportunity arises for the next important step in the treatment, namely, the introduction of psychotherapeutic measures. As the days and weeks pass by the physician and his patient become better acquainted. The nurse too learns to know the little personal peculiarities of the patient, her fears, worries and obsessions, all of which she, of course, faithfully communicates to the physician. The conversations between the patient and the physician are necessarily, at first, general in character but, as time passes, both the physician and the patient realize that a complete understanding has not yet been established between them; especially is this the case in the form of mental disorder which we are at present considering. Sooner or later, however, the occasion for a more or less prolonged talk with the patient presents itself. As a rule this conversation proves to be a long one. The patient having become acquainted with her physician, and having acquired confidence in him personally, now thoroughly relieves her mind of various matters, speaks to the doctor of her personal affairs, unloads her worries and cares and at times speaks of some matter, perhaps an intimate personal fact, which has been worrying and distressing her. In my experience it is infrequent for this fact to deal with the sexual life of the patient, though this is every now and then the case. Of recent years, as you are all doubtless aware, a school has arisen in Vienna under the leadership of Freud in which all of the nervous symptoms observed in functional cases are ascribed to sexual occurrences, so-called sexual traumata in the life of the patient. According to Freud, in treating such cases by his special method of psychotherapy, namely, psychoanalysis, it is necessary to have daily conversations of an hour with the patient, these conversations extending over a period of from six months to three years before the patient is relieved of the repressed memories of sexual occurrences. As a rule a physician conducting a rest treatment finds no difficulty by simple and direct methods in determining mental factors of real importance, whether they be sexual factors or other factors in the life history of the patient. The opportunities offered by the daily visits of the physician, the increasing confidence of the patient and her tendency to seek the relief, which a free discussion of her case offers, lead, as a rule to the disappearance of the apprehension, the special fear, the phobia that may or may not be present.

We should remember that while the treatment is being conducted, the bodily condition is undergoing marked improvement, large amounts of food are being ingested and assimilated. The heart's action is no longer rapid and disturbed. Tachycardia, so closely associated with fear, no longer occurs; the hands and the feet and the general body surface become warm; sleep becomes normal in amount and refreshing, and the attitude of the patient's mind ceases to be introspective. She ceases to study her own symptoms, ceases to dwell upon her former troubles, real or fancied. Soon a sense of well-being becomes established and this sense of well-being little by little becomes more and more pronounced until morbid ideas of all kinds are crowded from the field of consciousness. Buoyancy, expectancy, spontaneity, self-assurance and a desire, and finally a demand, for action mark the transformation.

During all of this period the patient's mind offers a fruitful field for psychotherapeutics. Suggestion by the physician as to the disappearance of the symptoms, phobias and what not now grafts itself upon the willing mind of the patient with tenacious force, and, under the powerful stimulus of the physical invigoration and the added stimulus of the physician's will, the patient's symptoms lessen and disappear. Time is required, it is true, but this extends as a rule over a number of months only, two or three or four; not, as in psychoanalysis, over six months or three years. The degree of success achieved in a given case depends largely upon two factors: First, the degree of neuropathy present; and, second, the length of time during which the special symptoms have persisted. Chronic indecision, abulia and phobias eventually disappear, though it is sometimes necessary to maintain suggestion and retraining for some time after the bed period of the treatment has been concluded. Stress must be laid upon exercise and upon occupation. The character of the exercise is very important. The latter should consist of slowly carried out movements of precision which should gradually be made more complicated and difficult. Movements of precision require a more or less marked concentration of mind and a sustained effort of the will. Finally, if the patient, who is being restored to health, be directed into some congenial channel of occupation so that the normal exercise of the body and mind will be maintained from day to day, the cure becomes complete.

It is hardly necessary to point out that the methods here outlined are also applicable to alcohol and drug cases. We all know how difficult it is, indeed, usually impossible, to control an inebriate, unless symptoms of actual insanity have made their appearance. However, if the inebriate can be persuaded to go to bed, and to submit himself to a physiological course of rest treatment, a lasting result can frequently be achieved. Much depends, of course, upon the character of the physician's own mind, upon his tact, upon his personality, upon the control which he can secure over his patient.

In this brief paper I have endeavored to outline the general principles which must guide physicians in the care of mental cases. It is imperative for us to realize that mental disorders, mild in character, are very frequent. They are much more frequent than is commonly admitted. Quite frequently too, as here indicated, mental disorders are of such a character that the patient is far from being insane. His condition under such circumstances forbids commitment and yet he imperatively needs treatment. It is to this class of cases and their management that I have particularly desired to call your attention.

SELECTED ARTICLES.

THE PRESIDENT'S ADDRESS.*

BY LOUIS FRANK, M.D.,
Louisville, Ky.

When, a year ago, you selected me to preside for a time over the destinies of this association, I was fully cognizant of the fact that I was expected to make you an address at this meeting, and my mind teemed with ideas and was filled with good things about which to speak to you. When it came to preparing this address I was sorely puzzled as to what my subject should be, but I remembered that the president has license to say almost anything, to wander here and there, to browse where he may, to abuse or praise without fear of open contradiction, and in that knowledge I have found consolation and excuse for the subject-matter which I may present to-night.

. . . . .

Medicine and surgery have been revolutionized in the thirty-eight years since the founding of this association, the causes of disease have been discovered, and treatment, at that time more or less empiric, is now based upon a scientific pathology. Bacteriological studies have given a new conception to pathology, and opened a vast field of which the profession was quick to take advantage. It would almost seem that the possibilities have been exhausted, and we are now turning to preventive medicine. Miasm, as a cause of malaria, has been vanquished; "shot-gun quarantines" against yellow fever have ceased to be in vogue, and the order of the day has become "war on the mosquito; death to the fly and the flea." These carriers of pestilential disease have been exposed, and in their extermination and exclusion, as we now know, lies freedom from chills, fever, immunity to "yellow jack," and an end to the plague. Those who made up the early programs of this Association little thought that we would, in such a short time, make such strides. In diagnosis we now have such methods of precision at hand, the microscope, blood reactions, the sphygmomanometer and the x-ray, that diagnosis becomes an almost mathematical certainty.

No less striking, and certainly more spectacular, is the immense field opened to surgery by Lister's appreciation and application of the discoveries of Louis Pasteur, to whom (though not a physician) modern medicine and modern surgery owe more than to any other one man who has ever lived. What could we have achieved had not his studies in fermentation and lower plant life been recognized as playing such an important part in suppuration. We speak of Listerism; we praise, and properly, his investigations in wound healing, but we forget the quiet little Frenchman who made all this possible. It is he to whom we owe the low mortality in operative surgery; who made possible the invasion of that sacred domain, the peritoneum, and rendered possible appendectomies, hysterectomies, radical breast operation, etc.

Prohibitive surgery of the '70's and '80's has been rendered commonplace and our aseptic technic has been developed to an almost incredible degree of exactness. All this has occurred during the professional life of many within the hearing of my voice. To touch even superficially upon the beneficent influence of Pasteurism and Listerian principles as applied in our

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daily life, not only in professional but in business and social ways, as a result of knowledge gained in the past three or four decades, would prolong this short paper into a most voluminous manuscript. Our profession and the entire world owe a tremendous debt to these two great men—Louis Pasteur, "the greatest benefactor of mankind in recent time," and Joseph Lister, "who saves more lives every year than Napoleon took in all his wars."

A great deal has been accomplished in the betterment of the general personnel of our physicians by the prolongation of the medical course, but we believe that the greatest good is yet to come. Thus far we have gone farthest in getting rid of that bane of the profession, that opprobrium of medicine, the proprietary medical college, and haste the day when they will have entirely disappeared from these United States. These schools, however, had a place; they had a function and a duty to perform, and were the outcome of the necessities of the times and of the frontier of civilization. Their work was, in many instances, good, earnest work. To realize this we have only to look around us and note the eminence gained and occupied in this day and time by many of their graduates. But their time has passed; there is no longer a frontier; there is no longer, on this hemisphere, a new country; there is no land for pioneer settlement, and in the onward march of progress the two-term school of the best type has had to give way, just as has the oxcart, the post chaise, and the horse car. In this progression of the requirements of the faculty, there has not as yet, however, been the readjustment of the practice which should go hand in hand with these advances. Surgery, special and general, is now recognized as requiring special training. This is also true of laboratory work, but not true of internal medicine, and few men deem it necessary to take a special training for this work. Is it that internal medicine is better taught than surgery? I think not, but rather that the very nature of practice in each department gives far greater opportunity for the student to attain a greater degree of efficiency in the one than in the other.

I often wonder if a four years' period of study in a medical school really qualifies one to undertake all the responsibilities of practice, the graver ones of medicine and of surgery, and those which come often in the still hours of the night when not only one, but two lives are dependent upon the skill of the attendant. In a long experience with recent medical graduates and in twenty years' observation of young hospital interns, I regret to say that my belief is, it does not. Obstetrics must be better taught and must be viewed from a broad standpoint. In this department of work the American schools are far behind and this is one of the most important branches of our art. Williams has recently drawn attention to our imperfect obstetric education and to the inability of many of our obstetric teachers. It would seem we have retrogressed, certainly there have been no advances. The branch is poorly taught, and the practice, as generally carried on, is worse. Most obstetricians, both teacher and practitioner, have been deprived of, or surrendered, such surgery as they should rightly and properly do. The surgeon of to-day should no more be called to do a primary perineorrhaphy, or other operative procedure, in the lying-in room, than to put on forceps, do a version or an accouchement forcè. Yet our obstetricians, for the greater part, assign such work to the surgeons, not only in practice, but in teaching the subject. Our students must have better training, a larger actual experience, hospital training and more rigid requirements before entering this field of practice.

Let us insist that the men who are to introduce our progeny into this world shall be something more than "grannies"; that they shall be not only obstetricians, but obstetric surgeons. Here is a great field for our postgraduate schools, one which, if properly carried out with demonstrations and practical teaching of the requisite kind, could, with the abundance of material at hand in our large cities, fill a place far more useful to the profession and public alike than they occupy at present.

It must be confessed that our postgraduate schools, and even our surgical clinics, have been in many instances, an inspiration, not always for good. The mercenary spirit is, we fear, still dominant in postgraduate schools of medicine, and these schools, rich in endowment though the large ones may be, and with ample hospital facilities and excellent men in their faculties, require investigation as to the duration of courses, the manner of their teaching and the conferring of certificates; if necessary they must be regulated. Specialists can not be made in six or eight weeks, yet certificates of proficiency are granted following courses of such duration, during which time the sole opportunity for qualification has been to observe some seventy-five or one hundred operations, and, for a fee, to do two or four operations with the assistance (?) of the tutor. Thus qualified (?), and with the help of an often poorly-equipped and more poorly-manned hospital, the specialist begins his work. What morbidity must follow in his wake! How much defamation must surgery suffer for such lack of ability? How many of our rural and even urban public refuse surgery in competent hands as a result of the impression made by these operators? Is it a wonder that surgical operations are held up to ridicule by the lay press? Is it remarkable that operations for appendicitis, their necessity or lack of necessity, are the topics of jokes? Certainly not. We should demand of our health boards that these schools be regulated; that qualifications, in addition to those for general practice, be demanded before permitting medical graduates to do major surgery. Unfortunately, our laws are such and the training men receive is such that they assume the largest responsibilities with an assurance which can be born only of ignorance and cupidity.

This country is teeming with specialists whose only training consists in the course mentioned, plus a visit to some of the famous clinics which we so fortunately possess. Every town of four or five thousand inhabitants has its hospital, in which the most indifferent surgical work is being done daily by men entirely incompetent. The visitor is struck by the lavish display of instruments—Jones' forceps, Brown's scissors, Smith's needles, Green's needleholders, etc. The operations consist of attacks upon structures to which Dame Nature has, unfortunately, given an easily controllable blood-supply and rendered readily accessible. With rubber gloves the danger of infection is minimized and the assault committed. This is of daily occurrence. Life is not always sacrificed, but the morbidity left behind, the needless suffering entailed, is something fearful to contemplate.

With the introduction of rubber gloves it was comparatively safe to do surgery and gratify the desire for notoriety and unearned and undeserved financial return, born of Mammon, to yield to the God of Cupidity and the love of gold, for do not surgeons receive large fees for their work? The task seems easy and the work not arduous. Little do such men think, or, thinking, realize, the years of study, the delving into pathology and physiology, and the time spent as an assistant, which the master-workers have devoted to obtaining their knowledge, gaining their experience, perfecting their technic, or acquiring their diagnostic skill. The reasoning of this class of men, and they are legion, would be something like this: "Murphy's joint work looks beautifully easy. Mayo's gastrectomies are simplicity itself. Crile's goiter extirpations are bloodless and shockless. Surely I can go home and take out an appendix, drain a gall bladder, or remove ovaries." Now, let us look the facts in the face; let us ask ourselves, Is it right that these men should be permitted to continue their work? "Well, a man must make a beginning," you say; "he must start." True. But why is it that in such specialties as eye and ear work several years of training are deemed requisite to fit a man or, at least, to make him believe he is fitted, to undertake cataract operations, mastoid operations, etc.? Because (1) in the one instance his morbidity literally stares him in the face; he can not tell the patient that a few hours more and life would have been lost, and satisfy him with imperfect results. Because (2) on the one hand, the public is educated to know what to expect and sees the results; and on the other hand is as yet ignorant of what to expect, and hidden from the patient and others, are not only the scars, but the pathology, or lack of it. For the same reason these so-called surgeons do not undertake joint work, goiter work, or anything else where there is a chance of their inability to fool the patient, or which may be fraught with great danger.

Here lies the basis of commercialism in medicine; from such lucre-loving, envious ignoramuses as these is the fee-splitter born; these and their kind are the grafters of the profession, the traffickers in the ills to which flesh is heir.

Let us have special examinations for those members of the profession who desire to wield the scalpel, with the additional requirement of an increased hospital experience for all specialists, surgical, obstetrical and medical. Then recognizing as such those who are able to qualify as specialists, let us compel them to adhere to such practice and not surreptitiously engage in work other than that for which they declare themselves particularly qualified. We must come into the open; we must correct these evils which exist. Thus far our reforms and advancements have come from within the ranks. Let us continue this and not be forced thereto by the demands of a public which must soon become enlightened as to our derelictions. Our code makes demands of us in our relations to each other upon an assumption that all men are equally qualified and equally honest, thus inviting the ignorant and the dishonest to hide beneath the cloak of ethics. The very existence of a code is a reproach to our profession. The very idea that there are doctors who must read printed instructions to guide them in their conduct as gentlemen is abhorrent. The code is a relic of the dark ages in medicine and is the last remnant of occultism and mystery. Too much mystery is not a good thing, and our profession has been surrounded too long by this impenetrable wall. Let us, in our advancement in knowledge, tear down this wall; let us take the public into our confidence, make friends with them and not repel their advances. Doctors occupy a sphere apart; and though they, better than any other profession, know the human heart and human nature, so also do the people know least of them and are less in sympathy with them. The public is not to blame for this attitude. It is of our seeking, of our making, and of our perpetuation. There should be no barriers between us and our patients; and just so soon as we meet them on common ground, act, behave and talk like other human beings (come off our pedestals built of mysticism and secrecy, the foundation of which was laid in the dark ages) just so soon will the false be separated from the true, the base from the refined, incompetents and rascals be cast out, and misunderstanding of us by the public come to an end. The doctor is a public servant, and as such his acts and his work should be open for public inspection.

BIOLOGICAL INTERPRETATION AND SURGICAL ASPECTS IN PAINFUL INDIGESTION.*

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Chosen to fill the place on this program made vacant by the death of Maurice H. Richardson, I will pause to pay tribute to that great surgeon, that good friend. Estimating the influence of his life and career, I would divide it into three parts, (1) as a teacher in Harvard Medical School, (2) as a member of medical societies, (3) as a practical surgeon.

As a teacher of anatomy and surgery he brought the classroom a vast store of theoretical and practical knowledge, which was communicated to the student in an original, clear, diagrammatic and enthusiastic manner. Almost no contemporary teacher in the Harvard Medical School more deeply impressed the student. Of no one were the alumni more prone to reminisce. As a teacher of physicians in the theater of the Massachusetts General Hospital or in his private hospitals, he will be remembered as a broadly-trained clinician, who studied his patient closely; who made voluminous clinical personal notes; who made a remarkably good diagnosis; whose clinical judgment was unsurpassed; whose frank acknowledgment of error was exemplary; whose ambidextrous skill in dissection was perhaps unsurpassed; whose attitude toward his patient and toward his hearers was always an earnest effort to seek the truth and all of the truth.

In practice he achieved as great a personal success as any of his American contemporaries.

As a member of the various medical societies, where we all met him, he was a regular attendant; when he read his carefully prepared papers all the members were in their seats; in his discussions, as in his papers, he was practical, frank and masterful. His presence at any meeting lent a dignity and force of its own inherent power. But the great overshadowing, frank, strong and beneficent personality, once felt, could never be forgotten. All the influence of his life was for harmony, good will, progress, useful endeavor, and, whether as teacher in the Harvard classroom, in the great theater of the Massachusetts General Hospital, in the consultation at the bedside, in medical meetings, this strong, able, efficient and lovable personality shed only a beneficent influence which will never be forgotten.

In the development of all the sciences there usually have been seen three principal stages; *viz.*, the first, a period of pure empiricism and baseless speculation; the second, a period in which vast numbers of facts are isolated; the third, the harmonizing of these facts by a general hypothesis. The first period is the period of ignorance and superstition, leading nowhere; the second period, because of the mass of uncorrelated facts, leads to confusion; while the third period is a period of simplification by great generalizations. It is chiefly in this period that phenomena become predictable and science becomes truly useful.

In recent years it has seemed at times that the mass of isolated facts would swamp the strongest intellect and that an endless number of specialists in the science, as well as in the practice, of medicine would be required. For myself, I hold the opinion that medicine has passed entirely through the first stage, is passing out of the second stage, and is now entering upon its third and final stage. We have left superstition behind, we are probably passing the zenith of accumulation of uncorrelated facts, and important generalizations are now appearing. The volumes of uncorrelated observations on yellow fever and malaria are now

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comprehended in the one word, mosquito; the monographs on diphtheria, in the words bacillus and antitoxin; the voluminous writings on smallpox are now crystallized in the one word vaccination; on typhoid fever, in prevention and inoculation; meningitis, antitoxin; hemorrhage, transfusion of blood; surgical shock, anoci-association; and so each year a generalization simplifies some disease.

In the selection of my topic for this occasion I have had in mind the probable dawn of a generalization in certain phenomena of the digestive tract; it is such a commonplace observation that we do not appreciate the importance of the fact that the principal lesions of the abdomen present the same phenomena in man and the lower animals; perforation of the intestines, obstruction, peritonitis, postoperative gas pain, all exhibit similar phenomena.

In certain abdominal lesions pain is a leading phenomenon. What is pain?

Pain, like other phenomena, was probably evolved for a particular purpose, surely for the good of the individual. Like fear and worry, it frequently is injurious. What, then, may be the purpose of pain?

We postulate that pain is one of the phenomena of a stimulation to motor action. When a barefoot boy steps on a sharp stone it is important that the injuring contact be released as quickly as possible; this is physical injury pain; when in sitting or lying there occurs anemia of the soft part at the points of pressure, pain compels a muscular action that shifts the damaging pressure; this is pain of anemia; when the rays of the blazing sun shine directly upon the retina the pain immediately causes a protective muscular action that closes the lid and turns away the head; this is a light pain; when standing too close to a blazing fire the excessive heat causes a pain which is expressed by the protective muscular action of moving away; this is heat pain; when the urinary bladder is acutely over-distended there is pain associated with voluntary as well as involuntary muscular contraction; this is evacuation pain; in obstruction of the urinary passages and of the large and the small intestine there is an exaggeration of both the pain and the accompanying muscular contraction; these are pathologic evacuation pains; when the fetus reaches full term and labor is to begin it is heralded by pain associated with rhythmic contractions of the uterine muscle; later many other muscles take part in the birth; associated with these muscular contractions there is pain; this is labor pain; when a foreign body, be it ever so small, falls upon the conjunctiva or cornea there is perhaps the acutest pain known and quick and active muscular action follows; this is special contact pain. Similarly there are special pain receptors placed in certain parts of the nose, the pharynx and the larynx, each causing special motor acts, such as sneezing, hawking, coughing. Associated with the protcetive motor act there may be experienced curiously vague pains; *viz.*, nausea pain and pleasure pain.

We have now seen that, as a protection of the body against injurious physical contact and environment, against heat and cold, against damaging sunlight, against local anemia in resting or sleeping, we are protected by virtue of the muscular action associated with pain. Then too, in the emptying of the pregnant uterus, in the evacuation of the intestine and the urinary bladder as normal acts, and in the overcoming of obstructions in these tracts, pain compels the required muscular actions; in passing gallstones and urinary calculi, urgent motor stimuli are awakened in the accomplishment of these ends. In all of these diversified pains the consequent muscular action is specific in type, distribution and intensity. This statement is so commonplace that we are apt to miss seeing the significance and the wonder of it. It is likely that every nerve ending of the skin and every type of its stimulation represent a separate motor pattern, an adequate stimulation of which, under like conditions, causes always the same response, muscular or otherwise.

But we will pass on to another and perhaps even more interesting type of pain; *viz.*, that associated with infection. Not all types of infections are painful, and in these infections that may be associated with pain there is pain only when certain regions of the body are involved. Among the infections that are not associated with pain are scarlet fever, typhoid fever, measles, malaria, whooping cough, typhus, and syphilis in its early stages. The infections that are usually, though not always, associated with pain are the pyogenic infections. The pyogenic infections and the exanthemata constitute the great majority of infections and will constitute the basis of the discussion which follows. Why is pain associated with the pyogenic infections as a rule, and in the exanthematous infections as the exception?

I will state one of my principal conclusions first; *viz.*, that the only types of infections that are associated with pain are those in which the infection may be spread by muscular action or those in which the fixation of parts by continued muscular rigidity is an advantage. And, further, we find as a striking corollary, that the type of infection that may cause muscular action when it attacks one region of the body may cause no such action when it attacks another region.

The first, and perhaps the most striking, difference between the painless exanthemata and the painful pyogenic infections is that in the case of the exanthemata the protective response of the body is a chemical one; *viz.*, the formation of immune bodies in the blood. These immune bodies usually produce permanent immunity, while the response to the pyogenic infections is largely phagocytic. In the pyogenic infections in order to protect the remainder of the body, which, of course, enjoyed no immunity, there is thrown about the local point of infection every possible barrier against the spread of the infection. What are these barriers? First, there is the pouring out of lymph, then the fixation of the part by continuous contraction of the neighboring muscles, and the inhibition of those muscles that in the course of their ordinary function would have spread infection by their contraction. Wherever there is protective muscular rigidity there is also pain. On the contrary, in pyogenic infections in the substance of the liver, in the parenchyma of the kidney, within the brain, in the retroperitoneal space, in the lobes of the lung, in the chambers of the heart, and in the vessels of the chest and the blood vessels of the abdomen, muscular contractions can in no way assist in localizing the disease, and in pyogenic infections in these regions there is no muscular rigidity and no pain.

The peritoneum being placed in relation to vast fields of infection has, through the law of natural selection, been wonderfully endowed with the means of resisting and overcoming infection. If the focus can be localized almost any infection can be overcome by the peritoneum. How, then, can a given point be localized? By holding the muscular abdominal wall still and rigid, by holding the muscular intestinal wall still and rigid against a large volume of gas, and by quickly throwing out a sticky fluid, or exudation. In this way a given point of peritoneum may be fixed. As a secondary adaptation, the stomach contents, under these conditions being not digestible, are rejected by vomiting, and a protective anorexia against useless food intake now stands guard. Any perforation of the peritoneum awakens this great anti-infection adaptive reaction and will be later correlated with an important surgical relation.

But, turning again to significance of abdominal pain, we will now consider a new viewpoint and a practical as well as fascinating one. I can best illustrate this point by referring to two cases.

In the medical ward of the Lakeside Hospital several years ago there was admitted a man, seventy-eight years old, whose chief complaint was obstinate constipation. The abdomen was only slightly distended; there was no fever; no increased leukocytosis; no muscular rigidity; and but slight general tenderness. He claimed to have lost in weight and in strength during the previous several months. A tentative diagnosis of malignant tumor of the large intestine was made, but free movements were secured rather easily, and we abandoned the idea of an exploratory operation. The patient gradually failed and died without a definite diagnosis having been made by either the medical or the surgical service. At autopsy there was found a widespread peritonitis, arising from a perforated appendix.

An infant several years old was taken ill with some indefinite disease. A number of the ablest medical and surgical consultants of a leading medical center thoroughly and repeatedly investigated the infant. Although at last they could make no definite diagnosis, they all agreed that it surely was not appendicitis, because there was no muscular rigidity and no tenderness. The autopsy showed a gangrenous appendix and general peritonitis.

How can the absence of pain in these apparently anomalous cases be explained? These two cases are illustrations of a great principle—the same principle that underlies the freedom from pain under narcotics and anesthetics. It is the same principle that explains the cholecystitis in the aged with any local symptoms excepting a mass and perhaps very slight tenderness; it accounts in general for the lack of well-expressed disease phenomena in senility and in infancy. The reason why the aged or the infant show but few symptoms of their disease is that there is usually little or no pain and slight, if any, tenderness or muscular rigidity. The reason why there is no pain is that in senility the brain is deteriorated, while in infancy the brain is so undeveloped that the cerebral mechanism of associative memory is inactive; hence, pain and tenderness, which are among the oldest of the associations, are wanting. Senility and infancy are by nature normally narcotized. Senility is passing through the twilight into the night; while infancy is traversing through the dawn into the day. Hence it is that diagnosis of injury and disease in the extreme of life is beset by especial difficulties, the entire body becoming as silent as the brain, the pericardium, the mediastinum, and other symptomless areas.

Then, too, usually when a patient seriously ill of a painful disease turns upon the physician a glowing eye, an eager face, and comments on how comfortable he feels, the end is near. This is a brilliant and fateful clinical mirage.

Given a case of chronic painful indigestion, what are the steps leading to a diagnosis? We will assume that the patient enters the hospital to remain two days for study. The temperature and pulse, of course, will be normal in the type of cases we are considering. There is usually constipation. As a rule, there is impairment in the general health, and some apprehension, frequently a suspicion, of cancer is harbored. The patient tires rather easily, can endure less work than normal, is often sleepless, there is vomiting, though not infrequently there is nausea, the digestion is most fickle and worse in the midst of worry and overwork with corresponding relief on holidays. There are longer or shorter rhythms in the symptoms of the malady, and every line of medical treatment attempted is uneven and uncertain in its results, but there is never lasting improvement. Treatment at health resorts is usually beneficial during the time, but relapse follows. Up to this point the disease may be ulcer, gall-bladder disease or appendicitis. From these common symptoms we may now consider the differential diagnosis. If in addition to the routine symptoms there is a history of night attacks of pain at irregular intervals, gallstones must be considered. If there is no hyperacidity, if the pain is referred to the chest and back, if there is a tender spot between the tenth and eleventh ribs in the back, if, when completely relaxed in a warm bath, deep pressure under the costal border produces local tenderness, especially if it also causes a referred pain, and if the kidney is negative to *x*-ray, then the diagnosis of gallstones or at least chronic cholecystitis may be made. If, however, the pains are distributed over the whole abdomen, constipation is quite marked, the pains being frequently a single darting pain, if the ureters are negative for stone, and if, when there is pressure upon the appendicular region, there is local tenderness and a production of referred pain identical with that complained of; further, if when one makes deep palpation over the appendix at intervals of say, four hours, there is an increasing tenderness, one may safely diagnose appendicitis. I wish especially to refer to the latter method as a most useful one, permitting the unmasking of a chronic appendix in ambush. Again and again have I found suspected cases showing none of the usual signs; no tenderness, no referred pains on deep palpation may be elicited in the first examination, but when one repeatedly presses and even rolls the cecum and, presumedly, the appendix, at say, four-hour intervals, and treats the left iliac fossa in precisely the same manner as a control, if there is chronic appendicitis there will usually develop after several vigorous examinations a definite and sometimes a high degree of tenderness in the right fossa, while the left remains negative. I can not overstate the importance of this method. Disease of the sacroiliac joint should be excluded. I might here add an exceptionally useful method of making a diagnosis of acute appendicitis in infants and young children, who so readily cry on examination. The method depends upon the fact that the sensorium is more sensitive to ether than is the protective muscle reflex, excited by palpating a tender appendix. Therefore, in a doubtful case, if the child be given twilight ether anesthesia, then under deep pressure there will be a distinct muscle reflex on the right side and none on the left. Then, too, if pressure is made and the anesthesia has faded to the semiconscious state there will be a pain response of absolute clinical value.

It is interesting to note the great degree of certainty with which one can predict the anatomical position of the appendix in several positions. Lumbar pain with a history of repeated fleeting abdominal pains since childhood is quite certain to mean a congenital lesion. In these cases there is a short mesoappendix, or the appendix is largely or sometimes entirely behind the peritoneum, extending far up behind the cecum and ascending colon, thus bearing a close proximity to the lumbar muscles. These cases resemble ureteral calculi and sacroiliac disease. Then, again, when the appendix is close to the bladder or attached to it, bladder symptoms are prominent. In chronic appendicitis there may be a certain amount of hyperacidity, especially if there is associated nervous strain. Gastric ulcer usually announces itself by frank symptoms, such as immediate distress on taking food, hyperacidity, free blood, and, of course, hematemesis completes the picture. It is, however, duodenal ulcer that gives us the greatest interest. The frequency of this lesion has been only recently appreciated.

In my experience there is almost no lesion that can with such confidence be diagnosed on the clinical history alone as duodenal ulcer. As Moynihan says, there is an orderly sequence of events in the history which is diagnostic. As a typical case one would find a male in the active period of his life complaining of the following: Rhythmic periods of daily pain at certain intervals after meals. The disease is usually worse in the winter. When the stomach is well emptied, say at eleven in the forenoon, at four in the afternoon and late at night, there appears a burning, stinging or heavy pain with scalding eructations, much gurgling of gas in the intestines. Left alone, it wears away after an hour or two, but is almost immediately relieved by food; perhaps the promptest relief is by drinking a glass of milk containing a teaspoonful of soda; a cracker, or indeed any food, gives relief, so that many patients, having empirically learned this fact, habitually carry a bit of food in their pockets. A patient in a doctor's consulting room with a cracker in his pocket has duodenal ulcer. Lying on the left side sometimes gives relief. There is no vomiting unless obstruction has developed. A test meal will show that the digestion is good; food passes out of the stomach promptly enough, but the acidity is high. There is sometimes local tenderness, but this appears only when the ulcer has quite penetrated the wall.

Why is there pain in the lesion of the appendix, of the gall bladder, of duodenal and gastric ulcer and no pain in lesions of the mucous membranes of the intestines? The perforation of the intestinal tract from ulcers, injuries, appendicitis, gallstones, etc., causes peritonitis; and over-distention of the hollow viscera from various forms of obstruction calls for great muscular action of the viscus. Division of the intestines with a sharp knife causes no pain, but pulling on the mesentery elicits pain. Likewise, ligature of the stump of the appendix causes sharp cramp-like pains. Sharp division of the gall bladder causes no pain, but distention, which is the gall bladder's most common pathologic state, produces pain. Distention of the intestines causes great pain, but sharp cutting or burning causes none. The appendix being now but a frizzled relic of a once militant organ of dignity and power, still retains its hereditary right to cause a reactive response the same as the active intestines do to-day, but, being a crabbed, misshapen organ, it is often in some obstructive or infective trouble. In the abdominal viscera, like the superficial parts, nociceptors have been presumedly developed by specific harmful influences, and each nociceptor responds only to its stimulation of the particular type that, through natural selection, produced it. In the course of evolution there was no opportunity of adapting the abdominal region to a sharp knife, but to the tearing of teeth and claws, and the rough contact with material environment. In the course of evolution there was no opportunity of evolving reactions to heat. Pain is produced by only those causes whose evil effect may be mitigated or overcome by this or that form of muscular response. Of these there are two great types, infection and obstruction. A certain type of painful indigestion is the proverbial, pesky postoperative gas pains following abdominal operations. Can this phenomenon be explained on the law of biologic adaptation? Let us see. Postoperative gas pains follow only those operations that open the peritoneum, even opening a small hernial sac causes it. There is pain, distention, rigidity, nausea and anorexia, sometimes vomiting. The phenomena are identical with those of acute infection. In the light of our biologic law of adaptation we would interpret this as being the adaptive response to an adequate stimulus of opening the peritoneum. Nature does not take any chances on the asepsis of the surgeon, but regards every opening into the peritoneum as infected and has set in motion the whole machinery of overcoming a local infection. Nature apparently does not recognize the surgeon, or does she know him too well? This explanation can be easily put to a test as follows: If the brain could be disconnected from the field of operation during the operation and for one or two days after it, then there could be put in operation no adaptive response to infection, that is to say, there could be no gas pain. This can be done by complete local anesthesia with XX 1-400 novocain, in addition to general anesthesia, and the use of 1 per cent. of quinin and urea hydrochlorate injected so carefully and completely that not a single nerve filament from the wound to the brain is left unblocked. This is the principle of anoci-association. This is a preventive of postoperative gas pains, and, curiously, also of the so-called aseptic wound fever. If postoperative distention is an adaptive response sent out by the brain in response to the opening of the abdomen, can we not explain the intra-abdominal tension in the course of abdominal operations on the same law of adaptation. Let us see? I have now performed a large series of abdominal operations under nitrous oxid anesthesia on the principle of anoci-association and have found that if the brain is cut off from the field of operation there is not the slightest adaptive response. When perfectly carried out, there is in the vast majority of cases no necessity for any intraäbdominal gauze pads and almost no need of retraction. The abdomen is in the condition, excepting for the respiratory movements, of a recent cadaver. Not only does the surgeon have the mechanical advantage of complete control, but of infinitely more importance is the complete immunity of the patient from shock. The postoperative chart, like the postoperative clinical course and postoperative comfort of the patient are all alike, all relatively negative. The nurse has little to do, the surgeons less and the patient attends to her knitting, digests her food and says nothing.

Among 8684 abdominal sections performed by my associates, Drs. Bunts and Lower, and myself, and in the Lakeside Surgical Service, 923 were on the stomach and intestines; 725 on the urinary tract; 744 on the gall bladder; 2130 on the female genital organs, and 3988 on the appendix.

In a recent conference, after tabulating all of our cases, we felt that certain conclusions could be drawn: that certain lesions of the viscera mentioned cause pain and indigestion, whereas lesions of the solid viscera cause usually no primary pain; that lesions of the hollow viscera causing no pain are rarely benefited by operation; that most cases of painful indigestion, if not duodenal or gastric ulcers, are extragastric; that the cause of the pain is the stimulus to muscular action; that pain is a damaging agency to health; that acute abdominal pain is usually surgical; that these phenomena obey a general biologic law of adaptation; that the adequate stimulus of many of the phenomena act through the brain; that when the brain is disconnected these phenomena disappear and thus may the mortality and the morbidity be placed measurably further under the surgeon's control.

From the foregoing it may be seen that abdominal pain is due almost wholly to two biologic adaptations: (1) to obstructions in hollow viscera, and (2) to infections, the pain being an accompaniment of voluntary or involuntary action. Abdominal pain, therefore, is associated with infection and obstruction, each a strong stimulus to adaptive visceral activity. Applying these generalizations to clinical problems, we may put a biologic interpretation on the phenomena of infection and obstruction.

Discussing ulcers of the rectum in Keen's *Surgery*, Volume vi., page 626, Robert Abbe, of New York, remarks that "in the treatment of the syphilitic lesions, salvarsan seems to offer wonderful results. In cases that have resisted mercurial treatment it certainly should be used. Its primary use (after diagnosis by the Wassermann reaction) is widely advocated."

THE STOMACH FROM THE STANDPOINT OF THE GENERAL PRACTITIONER, THE SPECIALISTS AND THE SURGEON.*

BY CHARLES G. STOCKTON, M.D.,
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This summer, in our Adirondack camp, a young man attempted to cut a hard log with an old saw. He tired himself without separating the continuity of the log, and he said, "The trouble is that the saw hasn't any teeth: it has nothing but gums." In what I have to say on this occasion I shall need something more efficient than gums; yet I shall sedulously attempt to avoid the teeth.

Since we have come to grasp the meaning of Henri Bergson, we learn that life itself is change, "a becoming." Prof. Ross of the University of Wisconsin points out how a selective change in pioneer life has wrought greatness in our Western States. At present, on all sides, we hear of a spirit of change working in men. Just now there is going on a rapid transformation of ideals in the industrial world, in politics and government, social relations in general. Society is stirred by a movement of the basic stratum, that of the common people. Forces, almost subterranean upheave, disarrange and promise to crumble the stiff and ancient crust of privilege, custom, class and convention. It has long been predicted, this evolutionary separation and rearrangement; probably like preceding upheavals, it will, after having spent its momentum in needed reforms, subside. New crusts of society, new "cakes of custom," will form. Sedimentation and apparent fixation are tendencies in human nature as elsewhere. Yet, when this social agitation has subsided, there will be left new ideals, new purposes and new preoccupations.

Do we in medicine fully appreciate that corresponding changes in sentiment have germinated and grown in our own profession? To what extent have our ideals changed? To what are these changes due? These are questions which it would seem well to examine; to which I would, perhaps a little one-sidedly, invite your consideration. In respect to these alterations in sentiment, it seems to me that the following is notable. There is a definite atrophy, a visible shrinking, in our respect for medical authority. Where formerly there were a few leaders in thought, makers of doctrine, professional princes, before whom all kowtowed, and some cringed, there are now numberless earnest workers to whom all listen expectantly.

In part this depends on the spread of the scientific method in medicine. Like a contagion, it has infected most conspicuously the young. Scarcely more than striplings, yet they have discovered. Often hitherto unknown, sometimes humble, yet their names have extended through the nations. At times we hear them speak in terms hardly idiomatic, or write in phrases that are syntactically idiosyncratic; yet even to these it is often wise to lend the ear. The old doctrinaires have been superseded by the patient scientist, the clever technician and, in some vantage points, by the young and unevenly developed enthusiast, in laboratory or clinic. There has been an era of shattered doctrines and of broken idols the result of the modern outburst of science and the democracy of thought. We have witnessed the outgrowth of a new perception spring from a soil enriched by the remains, the decayed structure, almost the cerements of the past; so that there have appeared through cities and suburbs, in towns and even hamlets, small so-called hospitals and laboratories, often semi-private, wherein collectively a large and increasing clientele is studied and treated. The importance of the case from a scien-

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tific viewpoint is no detriment to an undertaking. Necessarily, the work is uneven, the result varying from satisfactory to that showing unpreparedness and inaptness. Yet these small foci of nominal proficiency are rapidly multiplying. Their growth has been attributed, not without reason, to the more recently adopted methods of education and to the influence of postgraduate schools. Admitting this, there yet may be seen a reaction against the long-established, the more authoritative medical centers, a display of the spirit of democracy in all things; discontent with the existing order, an aversion to privilege, supposed to rest with better opportunity—a whisper of that disquieting term, "medical trust." Justly or unjustly, a resentment is felt by the general practitioner against the powerful metropolitan surgeon; the medical consultant, backed by the prestige of a great hospital; the specialist with an exuberance of fresh ideas, and, presumably, familiarity with new methods.

There is another feature that awakens the suspicion of the laity and of the general practitioner; it is the divergence in viewpoint, the dissociated, inimical, almost hostile, attitude with which the surgeon, the internist and the specialist respectively, regard the aspect of a given case. Surely, all can not be right. Where lies the truth? What blindness, what vision, what purpose underlie these several views? The judgment of men disagrees as to questions of politics, of investments and of medicine. In none of these can the element of purpose, of motive, pass without scrutiny. The general practitioner, bearing the responsibility of selection, and not bearing a just proportion of remuneration, occupies a place that begets suspicion, that suggests delay, that leads him to misinterpret candor and baffles his discrimination. And so the forces continue to make for dismemberment and antagonism. The consulting physicians, the men strictly surgeons (and there are such), the specialists and the general practitioners, severally, are jealous for their own ideals of truth, for their own group, their own interest. Meanwhile the democracy of science, the equality of privilege and of social rights, lead men to emphasize individual importance and the individual advantage. Just to that extent they are blinded as to some aspects of the truth; the home trail, that which leads to the largest advantage of the patient, is obscured. From such divergence there must come a reaction. For the stimulation of initiative, for the development of self-reliance and the fresh kindling of the torch of knowledge, we should rejoice; but from the egoism that is engendered, from the incompetence that passes at par value, from the corroding selfishness of our nature we should be delivered.

An awakening of professional conscience is inevitable. The arbitrament is not to be made by the often highly paid and especially qualified surgeon on one side and the internist on the other. It is not to be made by the specialist, with his expert knowledge, his ingenuity, his invaluable contributions to the common store of knowledge while acquiring a precision in chemistry, a dexterity with instruments that only the specialist can acquire. It is to be made by the general practitioner who should, and often does, assume the first place in responsibility in advising the course that is presumed to be of greatest advantage to the patient; who must continue to dwell in the neighborhood and be measured by the community, according to the wisdom and disinterestedness of his decision.

By whom, then, shall the arbitrament be made? I answer that the ultimate decision should be made not by any man, in a restricted use of terms, but should spring from the exercise of a higher and more comprehensive professional conscience. This sounds rather vague, visionary and idealistic. Let me attempt by amplification to remove the vague and the visionary, while holding to the idealistic.

In saying that the trial of a medical case, and the verdict that follows it, is one that should be placed in the court of higher and more comprehensive professional conscience, I mean to imply that individual judgment is prone not only to fallacy, but to partiality. Just now we are seeking to satisfy this human need through betterment in qualification, through a higher standard in medical education. Now, while admitting the need of an elevated standard of medical training and, what is of equal importance and an equal need, the attainment by our educators of a more reasonable conception of what should constitute a proper training and a living curriculum, yet this is not enough. Unfortunately modern training begets vanity. It should make vanity wither; yet, now it fertilizes it. A graduate from a celebrated school thinks with that school, his range of vision too often is limited to the methods, the idiosyncrasies, the narrowness that are inevitable in every school where almost exhaustive training is required in reaching perfection in the use of positive methods in the search to unveil mysterious and uncertain natural processes.

The very fineness of the training develops a snobbishness of the mind. High training does not necessarily mean high thinking. Even thinking may hasten one in the wrong as well as in the right direction. The man who has had opportunities of the best kind, academic and professional school, hospital service and foreign clinic (granting that he is open-minded and intelligent) is yet prone to see only one side of the truth. He is essentially an educational aristocrat. Unconsciously his preoccupations place him in a class; in that class he continues to develop strongly and one-sidedly. He has had surgical predilections and opportunities, and his vision is so modified that he perceives with surpassing celerity, and sometimes audacity, the surgical possibilities of a case. He does not see the whole case. The assistant of one of the great surgeons of this city, one of the world's greatest, in fact, said in my presence, "We hold that the surgeon is merely the arm of the physician, but the trouble with you internists is that you don't make surgical diagnoses." Well, I should hope not. "A surgical diagnosis!" Surely such a creation would be lacking in some essential part, perhaps a pylorus. How can a diagnosis be a medical, or a surgical, or a special diagnosis? In so much as it uniforms itself with one of these it ceases to be a diagnosis; it is but the one-sided view, put in the limelight.

Of course, the danger of a particular kind of diagnosis is that it leads to a particular kind of treatment and a particular kind of result. Is it the best possible result? That is the question. Our consciences are queer. With what expenditure of travail, of care and of thought is a man born, reared and placed in his social position. All that, when illness seizes him, his life, he blindly trusts to the medical profession. Do we give commensurately of travail, care and thought in disposing of this trust?

The rank and file of the profession show a discontent with the dominant, well-intrenched and often endowed stratum, represented in the celebrated clinics. Many are convinced that there is unfairness in the arrangement. The patient, seeking the best, is attracted by the reputation of a certain hospital. The family physician brings the patient, who is received by one side of the house or another, physician, surgeon, specialist, whichever it may be. The patient passes beyond the control or influence of his home adviser; the work is done, the relatively large fee is paid; the patient falls back upon the family physician to finish the job, for which he received little consideration and less compensation.

It frequently happens that some side of the case has been neglected; perhaps it demands surgical ability and has been seen only by the medical consultant; or an operation has been hazarded uselessly when a sound diagnosis alone was needed.

The general practitioner, owing to his discontent, is encouraged to exaggerate the trouble and to become alert to maintain his foothold and his remuneration. That ugly thing, "fee-splitting," doubtless finds excuses in some minds, where there dwells the doubtful standard, that one wrong justifies another.

It is hard to believe that the distortion of ethics here involved could exist amongst us except that there was the consciousness of a grievance of a fundamental character. A relief from the harmful situation and false position is desirable to all alike. How may it be accomplished?

In my judgment, the remedy lies in a closer association of the several elements concerned. It will seem but natural that the medical consultant, the specialist, the surgeon and family physician should study the case more unitedly, should divide responsibility together, should be compensated more equitably through an open understanding. It may be said that this arrangement is now the habitual practice. That I deny deliberately.

Many surgeons have salaried assistants, whose business it is to occupy the field properly belonging to the specialist, to the medical consultant or the family physician. Certain specialists commit the same error.

To continue this is to make all men become surgeons or specialists. The rank and file will refuse to be left out. Also ultimately, it will be found disadvantageous to medicine, unprogressive, and will react on those most responsible. The remedy lies in associated responsibility. That the remedy of closer association in our work is practicable I know from personal observation and experience. The general practitioner should be closely related to his case from beginning to end. Not to bring this about should be a mark of the greatest discourtesy. The specialist should contribute from day to day wherever expert knowledge or special technic is advantageous. Whatever course is righteous should be determined, not by the dominant voice of one, but by the candid consensus of the group. By emphasizing the voice of the family physician in such consultations there is eliminated the danger of cliques. Granting the value of close understanding, of mutual confidence that results from working habitually with a particular small group, nevertheless the educational advantage derived from a wider method, the stimulation that this gives to disinterestedness, to higher ideals, to general results, far outweighs the former.

I am afraid lest this will be interpreted as meaning the common practice, the loose arrangement so usual, represented by a consultation with an internist on the one hand or a surgeon on the other, and meanwhile the opinion of a specialist. Not this at all! I ask for close coöperation through the course of the disease, where the immediate direction shall be entrusted to that one whose particular fitness is decided on, but where the individual steps shall be submitted to criticism of the group. Manifestly this refers to important cases in which the diagnosis and the treatment require watchfulness, responsibility, deliberation, decisive action; in which special skill, wide experience, surgical intervention may be demanded; in which the future welfare, or the life, of a patient is at stake.

I have had frequent opportunity of observing the working of good and evil in the professional management of stomach disease. This field is rich in illustrations, because derangements of the stomach form so commonly a part of pathology starting in almost any part of the economy; because disease arising in the stomach often concerns directly the physician, the specialist and the surgeon. Few regions more generously reward the correlated study of physiology and chemistry, of psychology and general medicine, of special technic and wise surgery. Nowhere, now that the craze for oöphorectomy and for fixation of the kidney has subsided, may one so often see the unhappy results of unthoughtful surgical interference: the failure from timid negligence of needed operative intervention; especially the evil consequences of early misunderstanding, misinterpretation and subsequent mismanagement of cases.

Numerous admirable treatises on diseases of the stomach we have: postgraduate teaching on gastric chemistry is not wanting: surgical demonstration of what Mr. Moynihan aptly names "The Pathology of the living," unfolds before us every day. One proclaims, "It is the field of the general practitioner," and another, "It is the work of a specialist;" still another shouts, "Dyspepsia is an indication of a surgical disease and demands surgical treatment." According to the case, each is right and the other is wrong. Truth suffers in that the three viewpoints are yet too unsympathetic, too critical of each other, and too partisan.

Let us review a few conspicuously familiar, illustrative pathologic instances arranged in three groups.

First Group. A case of unrecognizable tuberculosis, with gastric irritability. A specialist, after analysis of stomach and contents, recognizes a gastric neurosis and treats it by lavage and restricted diet. Improvement is not forthcoming, so a surgeon is invited. He sees a reflex, secondary to chronic appendicitis, and removes the innocent organ. Following a brief period of improvement, the result of psychic impression and suggestion, the case marches on; there is now fever, cough, expectoration, heralding infiltration, softening and vomica.

Comment. It was a case for general medicine, not one for specialist or surgeon; yet it might have been, and both these might better have studied the case jointly with the family physician until the diagnosis was established.

You may say that the instance shows crass incompetence. Not at all; the men concerned were able and conscientious, and the case is not so exceptional as it may seem.

To this illustration might be added that of a case of undeveloped Graves' disease, or that of a case of eye-strain; irregular, unsymmetrical, slight in degree; recognized but improperly corrected. Or that of a case of angioneurotic edema affecting the viscera, recurrent in its manifestation.

Scores of such illustrations could be arrayed, cases betraying their activity chiefly through disturbed gastric digestion, in which the symptoms are sufficiently misleading to warrant the painstaking study of a group of men; cases in which misconception leads to harmful or useless treatment, to fatal delay, or to needless surgery.

Illustrations showing the need of the specialist and in which the general practitioner and the surgeon were inadequate are present in the following group.

Second Group. A case of gastric atony, with anemia, emaciation and mental depression; with constipation, slight hepatic derangement, tenderness and recurring bilious attacks.

The general practitioner perceived the denutrition, yet harmed the patient with superalimentation and chalybeates. A surgeon, noting the gastric distress, the moderate motor insufficiency, the colonic stasis and the disturbed liver, felt that the primary fault was an infected and irritable gall bladder, and drained the useful organ with no worse effect than making it small, limiting its movements and binding it by adhesions to the surrounding parts.

In fact, the case was one for the skillful specialist, who, by local treatment, carefully suited the diet and general development of the patient and in the end relieved the symptoms; who, then, by educating the patient as to his dietetic limitations and necessities, by teaching forbearance, willingness and waiting, had the satisfaction of seeing him restored to reasonable health.

To this might be added many illustrative instances, such as the ensuing.

A case of subacute gastritis, mistaken by the family physician for toxemia, and by the surgeon for the expression of disease below the digestive tract.

Or, a case of achylia gastrica, mistaken by the general practitioner for chronic colitis, and by the surgeon for cancer of the stomach.

Or, a case of gastric hyperesthesia, mistaken by the family physician for gastritis, and by the surgeon for duodenal ulcer.

Comment. Many instances could be cited showing the importance of the special skill, laboratory facilities and large experience that most specialists in stomach diseases possess. In this field the general practitioner and surgeon need wider vision than is commonly exhibited. Unfortunately, too many have but scant interest in the work, little appreciating how richly it contributes towards a rounded view of both internal medicine and surgery. It is affirmed that diseases of the stomach is a field for general medicine, not for a specialty. I admit it; yet until the subject is better known by physician and surgeon, the specialist supplies an important need.

Finally, let me refer to those cases that my esteemed surgical friends have not neglected to present as horrible examples of medical purblindness.

No one can fail to recognize their importance, and internists hail with enthusiasm the brilliant surgical achievements which have so enlightened many dark pages in pathology. Numerous are the instances that may be cited under this.

Third Group. A group illustrating the possibilities in surgery where physicians and specialists have stumbled.

A patient was long treated for dyspepsia by his usual attendant, who gave hydrochloric acid, bitter tonics and pepsin.

A specialist found hyperchlorhydria without discovering its source, but afforded temporary relief with alkalies, sedatives and diet.

Upon recurrence a surgical exploration revealed a duodenal ulcer, when gastroenterostomy was performed. This sequence of events ought not to have occurred, and yet we must admit that it is not unparalleled. In fact, it is introduced here because it is the illustration most frequently employed, although, from my viewpoint, the lesson that it teaches is not precisely such as passes current in the self-satisfied literature of the day. Gastroenterostomy for peptic ulcer, *per se,* is not satisfactory, and, I predict, will be superseded.

Other illustrations, equally familiar and yet more convincing, might be added. For instance, chronic indigestion in the opinion of the family physician; motor insufficiency from pyloric ulcer in the judgment of the specialist; actually, chronic cholecystitis, and cured by the surgeon.

Comment. Why multiply the examples? Surely, the fair-minded men will admit that all are prone to make mistakes, that we need, each of us, the friendly and interested coöperation of others, especially competent on some particular plane of the figure. For the patient, under the present organization of medicine, the cost of our getting together is often prohibitory. The only way that I see to conserve this vital interest and yet not bankrupt the patient is to work in groups, whether within or without the hospital, and have one fee for all, with or without operation. Our defeats might often have been converted into victories had we adopted the sensible and uplifting course of united, closely-knit effort in the diagnosis and management of cases.

Yet more, the spirit of modern democracy, which well might flaunt the old French legend, "Liberty, fraternity and equality," has invaded our profession. With its spread there will come, at least temporarily, an enormous advance in mediocrity and self-sufficiency. Higher medical education can not stop it; at best it can only hinder; at worst, it will accelerate it. Legislation can not control it.

The remedy lies in the united stand for a higher ideal, for a better sentiment; in an actual, not nominal, getting together in our work.

The management of an important medical case is a responsibility suited to a carefully selected committee, not to an individual who represents but one side of the truth; not to the staff of one of those clinics whose subalterns are subsidized for the magnification of a single phase of medicine.

JOURNALISTIC SUGGESTIONS FOR MEDICAL WRITERS.*

BY LLEWELLIN ELIOT, M.D.,
Washington, D. C.

An experience with medical journals for several years and a previous association with the general public press, have afforded me opportunities for appreciating the difficulties and vexations of the editorial office.

An unfortunate trait in the character of the average man is a desire to see his name in print, and frequently it is an arduous task to convince some writers that their contributions, while excellent from a literary standpoint, are useless from the standpoint of a journal policy. A man of this character will give much study in the preparation of a medical paper; his paper is a complete monograph upon the subject; a clean typewritten copy is sent to a journal, which has been selected, not always on account of the special adaptability of the paper, but because the journal has a large circulation and is ranked among the best. In time he may receive a note from the editor returning it with thanks, as "not available for our journal." Now, our author will be disappointed, but let him look at the situation in an unbiased manner. Was the paper such as would hold the attention of the general reader? Did he not go so deeply into the subject that the paper became tiresome? And let him also remember, he is not paying for the printing.

System. Before beginning a paper the writer should have some system. The subject should be divided into headings, so that there will be no disconnected portions, and when a heading is completed it should be checked.

Size of Paper. Select a paper of proper quality and size, 8½ by 11 inches; write on one side of the sheet only, and always write in ink, otherwise the paper may be rejected; this last is the rule of every printing establishment of independence. There is nothing that irritates an editor more than to have to read, correct or revise an article written on paper which will not take the marking of a blue pencil.

Titles and Positions Held. Whether it is necessary for a writer to append all the titles and hospital and college appointments he holds as a trailer to his name at the head of his paper, or whether it is wise to append a long list of "Exs," is a matter for every author to decide for himself; few care what the writer is as a teacher, an internist or a surgeon; they want to know what he has to say, and in the fewest possible words. Let the paper speak for you, and of what account you are, since all the titles in the directory will not help a poor paper to a place in good literature.

Typewritten Papers. It is an act of kindness to the typesetter to make a clean type-

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written copy, for mistakes can then be properly charged and admitted.

Illustrations. When illustrations, temperature charts or other matter of this kind are a part of a paper, always make them on separate sheets; temperature records should be made on sheets larger than the ordinary temperature chart; this is troublesome to the author but it is a help to the printer. Illustrations should illustrate, and not show cuts of instruments, apparatus or forms of disease of common use or of daily observation. Dot or dash typing is a thing to be omitted, as far as possible; many printing establishments do not carry a quantity of such type in excess of their needs.

Journal. When you have written a paper it is well to consider what journal is best suited for its publication. An article on obstetrics should be sent to a journal devoted to that special branch; likewise, one on surgery, on otology, on hygiene, on ophthalmology, and so on through the entire list, should be sent to journals devoted to those specialties. Of course, this applies only to articles which are exhaustive and not to short, practical papers, which are always welcomed by any journal.

Send to One Journal. When you have selected the journal which you consider the proper one for your paper, send it to the editor direct, accompanied by a note stating that you would like to have it published at his earliest date. Never send it to another journal without first notifying this editor of your intention, and also stating to the second editor that the paper has already gone to another journal. This is good faith, and it then gives both editors the right to accept or reject, since matter of this kind is not desired; no journal likes to be second choice. A few years ago one paper was sent to twenty-eight different journals and published as many times. Recently the same trick was played upon some journals; the writers are now *personae non gratae.* If an article possesses any merit or strikes an editor as something that his readers want, he will abstract it or publish it under "Selected Articles"; the system of exchange now in vogue with journals brings everything to their offices, so do not offend in this matter.

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Such being the case, any paper appearing in any journal other than the journal or organ of the society before which such paper is read should have the following memorandum accompanying, "Published by permission of the society." A publisher then knows how to treat the paper without loss of dignity to his journal or offense to the writer.

Subject. Make the title express the subject, and the shorter the better. Do not say, for example, "Puerperal Eclampsia; Report of Sixty-thousand Cases; Recovery in Every One; Treated by Chloroform, Magnesia Sulphate, Veratrum Viride, Elaterium, Venesection," or "Three Interesting Cases." The title in one case is topheavy, while the other one tells nothing, and the busy man will not read the article. The title in the first instance should have been "Successful Cases of Puerperal Eclampsia," or "A Report of Sixty Thousand Cases of Puerperal Eclampsia," or "The Treatment of Puerperal Eclampsia." In the second instance the author should tell what is the class of the "Three Interesting Cases." If they are entirely distinct in type he should make three separate papers.

Introductions and Apologies. Avoid introductions; they are seldom of any value except as pieces of vanity on the part of the writer. There is one thing a writer must never do, and that is make an apology for a paper. It is an admission of mediocrity, and there are few, if any, who will listen to or read it. In my opinion, this is fawning, cringing, begging the question. A short paper is always more appreciated and ensures a greater attention than a long, wordy paper, while a long paper upon a technical or a scientific subject ordinarily falls flat with the general audience.

Quotations and References. In an article for a journal, it frequently will be desirable to quote the writings or opinions of other observers. This can easily be done by making a short abstract, a synopsis of the part to which the reference is made. Quotations tend to weaken a paper, since anybody can read the original article, while few will bother over a quotation. Do not give a long list of references to journal articles or textbooks, giving the authors, the volumes and the pages. Give the reader credit for having some intelligence, and if he desires to look up the subject he will not take your references without question, but will go over the ground, verify for himself. . . .

Omit Names of Hospitals, etc. In writing an article for publication omit in the text the names of hospitals, sanitariums, asylums and homes; do not mention by name instrument or manufacturing houses, because your paper may be taken for an advertisement, or the parties may not be advertisers in the journal, or they may not be on good business terms with the publishers; in any case the editor may exercise his rights and his blue pencil to the astonishment of the author, but you may guess the reason of the erasure. Such references will be placed under "Reading Notices."

Do not give long histories of cases; put the essential points on record; leave out the names of consultants, assistants and others; nobody cares who was present or who assisted, but everybody wants to know what you did and how you did it.

Never insert in an article any matter which has no bearing upon the subject in hand; this will weaken it and detract from the interest you wish to hold; if you want to tell a story or a joke, tell it some other place, and not in your paper.

Troubles of the Editor. An editor of a drug journal wrote to one of his contributors recently, so says *The Druggists' Circular*, August, 1908, about some of his troubles, and the following is a part of his letter: "Each piece of the copy, no matter how carefully prepared by the author, requires editing in order that the printer may understand how to handle it in accordance with the rules of the printing office. If the typewritten matter is spaced this editing is very conveniently done. If the matter is typewritten without spacing it sometimes necessitates having the entire article rewritten for the printer."

Ruskin was correct when he wrote: "Certainly it is excellent discipline for an author to feel that he must say all he has to say in the fewest possible words, or his reader is sure to skip them; and in the plainest possible words, or his reader will certainly misunderstand them. Generally, also, a downright fact may be told in a plain way; and we want downright facts at the present more than anything else."

Conclusion. In conclusion, let me suggest—whatever you have to write, make it short and to the point; cut out what appears to you as beautiful flights of rhetoric; cut out every word that has no place in the paper; take the corrections of the editor in good part; remember his life is at best a thing not to be envied, and that while he is at the head of his journal he must exercise that policy which will bring the greatest returns, in cash and in good words; and, further, take a little advice which, although written more than thirty years ago, is still good enough to paste on any writer's desk. It is:—

"Whatever you have to say, my friend,
  Be it witty, grave or gay,
Condense it as much as ever you can,
  And say it in the readiest way.
And whether you write of household affairs,
  Or particular things in town,
Just take a word of friendly advice—
  Boil it down."

HEREDITY AND EUGENICS.*

BY L. MERVIN MAUS, M.D.,
Colonel, Medical Corps, U. S. Army; Chief Surgeon of the Eastern Department, Governor's Island, N. Y.

I came here to-day to extend to the graduating class the hand of fraternal fellowship to medicine, the most altruistic profession the world has ever known. Medicine, which is one of the noblest and most ancient callings of mankind, reaches back to the earliest dawn of history. Long before the days of Hippocrates, temples were dedicated to the healing art, over which Grecian and Egyptian gods presided, besides many of the most celebrated philosophers and sages of antiquity. Among its apostles were enrolled the greatest human characters that ever lived, thousands of whom have sacrificed their lives upon the altar of duty. Even Christ, the Divine Teacher, came as the Great Physician to cure the maimed, halt and blind and to redeem the world from its moral and physical degeneracy.

Much has been accomplished during the past few generations for the benefit and improvement of the world through medicine and the allied professions. It was only several years ago, comparatively speaking, that the terror of the operating table was removed through general and local anesthesia, and but a few years later the discovery of wound infection and asepsis, which made Lister immortal.

These were shortly followed by many brilliant discoveries in the field of biology, which laid bare the secrets of microbic infection hidden since the dawn of creation. As a result of the Army Yellow Fever Board in Cuba, that dreaded scourge of the south has been eliminated and the West Indies and Central America made habitable. Diphtheria, the very name of which less than a generation ago made the young mother quake with fear, has been conquered through the beneficence of serums and antitoxins, and typhoid fever, the scourge of army camps and the annual destroyer of thousands of our young men and women, has at last succumbed to the blessing of vaccination.

Plague, which devastated Europe during the middle ages, and until recently has been the fatal pest of oriental cities, is now controlled by the destruction of rodents, which carried the hosts of the infectious bacillus. Tropical anemia and its association with the hook worm, which rendered seventy-five per cent. of the natives of Porto Rico and a large proportion of our southern states apathetic and unfit for labor, is rapidly disappearing, as well as beri-beri, malaria and a host of other diseases, whose etiology was not understood until recently.

In the brief period at my command it would be impossible to review the triumphal march of our profession through the fields of medical discovery, and recount its great victories over disease and death. As a result of patient laboratory investigators, who are the real heroes of the world, life has been doubled during the past two or three centuries, and the probabilities are growing, with the study of eugenics, that it will be increased as much again within the next century or two. The length of human life in Europe during the sixteenth century averaged from eighteen to twenty years, while to-day, it has risen to forty-five or fifty years. The longevity of a nation depends principally upon the character of its civilization and habits of the people. It is a significant fact that Sweden, which is the most temperate nation in the world, enjoys the greatest longevity, while that of beer drinking Germany stands among the lowest. When the enemies of health are conquered, a hundred years will be regarded as the acme of maturity and old age

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*An address delivered at the thirty-fourth annual commencement of the College of Physicians and Surgeons, Boston, June 11, 1913, and reprinted from the *Medical Times*, Aug., 1913.

will not be considered before man has passed the hundred and fiftieth milestone on the journey of life.

Naturalists claim that the longevity of animals should be computed by multiplying the growing years by five. Man grows until he reaches thirty and hence under normal conditions should average one hundred and fifty years. For ages health officers have been waging a war against cholera, plague, tuberculosis, typhoid fever and other fatal diseases, which result from virulent germs of protozoa. To-day the profession of medicine is turning its attention to the evil spawn of mankind, which is expressed by the mental and physical wrecks found in our hospitals, prisons, jails, reformatories and insane asylums.

Preventive medicine means more than disinfection, sanitation and vaccination against disease. It means as well the study of heredity and practice of eugenics, subjects which every physician should consider, who is anxious to contribute his share to the prevention of disease and the improvement of the race. The splendid work of Darwin, begun half a century ago, on the origin of species by selection, has stimulated the study of heredity and strengthened the dream of the eugenist for the attainment of an ideal race. More than two thousand years ago Socrates concluded the best way to develop a perfect race was to begin with children ten years old and banish all others from the country. Singularly enough, an intelligent Filipino told me a few years ago that decapitation of all his countrymen over ten years old would become necessary before anything could be done for his degenerate race.

The fundamental factors in the development of the family and race are heredity, training and environment, which are known as the triangle of life. While training and environment are essential to the formation of character and physical development, heredity will ever remain the determining factor of the three and be regarded as the base of the triangle. Dr. Davenport defines environment as what we have, training as what we do, and heredity as what we are. Environment and training may result from the fortuitous circumstances of life, which are ever changing, but heredity is fixed by immutable laws and defies the intervention of man. The excellent results which have followed breeding and the mingling of select strains among animals and plants have been known to science for ages and it seems singular that these principles have not been applied to the improvement of the human race.

Voltaire said nearly two centuries ago, "If as much care were taken to perpetuate a fine race of men as to prevent the admixture of ignoble blood in horses and dogs, the genealogy of everyone in the world would be written on his face and displayed in his manners." No one who understands the laws of heredity can expect sound, healthy and intelligent children from unsound and degenerate stock. Jesus was aware of this fact when he said, "A good tree can not bring forth evil fruit, neither can a corrupt tree bring forth good fruit." When the general public learns that the diseases and evil traits we possess were transmitted by those who are moldering in the grave, thousands of defective sons and daughters will curse the memory of their dead parents who fastened upon them the seeds of degeneracy.

Statistics inform us that two and a half million babies are born annually in the United States who are feeble minded, epileptic, deaf, dumb, blind, insane or otherwise degenerate as a result of heredity. Owing to previous lack of interest in such statistics it is impossible to present accurate figures, but it is probable that nearly all of our mental and physical degenerates and criminals result from heredity, or the "racial poison," alcohol. The effects of heredity are markedly shown in the mating of epileptics and the feeble minded, the progeny of which are invariably epileptics, feeble minded or both. Bulletin No. 4, Eugenics Record Office, 1911, states that of five epileptic matings, from which 14 known children resulted, 8 were epileptics and 6 feeble minded, and from 6 feeble-minded matings with a progeny of 21 known offspring, 16 were epileptics and 5 feeble minded. Two mentally defective parents will produce only mentally defective offspring, and no imbecile is born except from imbecile parents. This law has been demonstrated through the study of scores of families at the Training School for Defectives, Vineland, New Jersey. It has also been found that many strong persons carry defective germ plasm, which may not show itself in the progeny unless united with germ plasm of other defective families. Hence there is the greatest danger in the consanguineous matings of such families.

The study of embryology has taught us that reproduction of the human organism results from the union of the ovum and spermatozoön, and that during this complicated process the network of the nuclei of the two cells are changed into an equal number of chromosomes, which are regarded as the bridge over which the stream of heredity passes. Besides the chromosome theory of heredity we have the biochemical theory, which has many strong advocates. In support of the chromosome theory it will be remembered that they develop from the nuclei, which are the only portions of the two cells which take part in fertilization. The influence of good stock may be illustrated by the descendants of three remarkable families, whose distinguished qualities have contributed so much to the organization, growth and character of our people and country. The progeny of Elizabeth Tuttle, a rarely gifted woman of Massachusetts, who married Richard Edwards in 1667, includes scores of brilliant educators, jurists, divines, inventors and literary characters. From Richard Lee and Laetitia Corbin, of Virginia, have descended an illustrious line of statesmen, military leaders and cavaliers, while from John Preston and Elizabeth Patton of Kentucky have been derived many famous jurists, divines and military leaders.

The intellectual and noble progeny of the Edwards, Lees and Prestons stand out in marked contrast to the defective and criminal progeny of the "Jukes family" of New York and "Ishmaelites of Indiana," whose descendants for five generations have filled the insane asylums, prisons, poorhouses and brothels of the communities in which they lived and cost their respective states millions of dollars. At the beginning of the twentieth century 1394 descendants of the eminent divine and educator, Jonathan Edwards, the grandson of Richard Edwards and Elizabeth Tuttle, were identified. Among the progeny of this remarkable man were found 13 presidents of colleges, besides principals of many educational institutions, 60 physicians, many of whom were eminent, 100 clergymen, missionaries and theological professors, 75 army and navy officers, 100 lawyers, 30 jurists, 6 prominent authors and 3 United States senators. Besides these many members of Congress, framers of state constitutions, diplomats, mayors of cities, presidents of railroads, banks and insurance companies, and others engaged in important manufacturing and commercial enterprises. It is not known that any member of the fraternity was ever convicted of crime.

In striking contrast to the Edwards family, stands out prominently the progeny of the Jukes family, which has been traced back to the union of two sons of Max Jukes, a besotted and indolent backwoodsman of Western New York, with two indolent harlot sisters, one of whom was known as "Margaret, the mother of criminals." The progeny of these degenerate families includes over 1000 descendants, 540 of whom were identified in 1877. Dugdale discovered that about one third of this family died in infancy, 310 were paupers who spent 2300 years in almshouses and 440 were physical wrecks. Over one half of the women were prostitutes and 130 convicted criminals, 7 of whom were murderers. Not one of the entire family had a common school education and only twenty learned trades, ten of whom died in prison. It is estimated that this family up to 1877 cost the State of New York $1,250,000, and it is more than probable the sum has been doubled since then. A most convincing argument of heredity may be found in the progeny of "Martin Kallikak," of New Jersey, who unfortunately has furnished a control experiment. During the Revolutionary War, Kallikak, a man of fine physical type, took advantage of a feeble-minded girl, who bore him a feeble-minded son. This son married and became the progenitor of 480 known descendants, 143 of whom were feeble minded, while the remainder fell below mediocrity. After the war he married a Quaker girl of good ancestry, from whom 486 descendants have been identified. All of the progeny of the second mating have been found of normal mentality, except two, who were classed as subnormal but not feeble minded. While the introduction of other streams of germ plasm doubtlessly influenced the character of these two lines, it is more than probable that the defective germ plasm of the feeble-minded Revolutionary mother was responsible for the mental defect fastened on 143 of her progeny.

Marriage qualifications are attracting general attention throughout the country and the day is fast approaching when the health certificate will become as necessary as the marriage license. Many progressive ministers of the gospel already require such certificates before performing the wedding ceremony, and it is hoped, in the interests of the race, that it will become a general law during the present generation. Marriages are regarded from many standpoints, as a climax of love, union of property interests or to fix the social status, but rarely from the standpoint of sound, healthy children. Regard it as you may, marriage is a serious matter and everyone who contemplates such a step should look well into the mental and physical qualities of the prospective family of in-laws, remembering that the son or daughter is a chip from the same block. Good stock does not mean only the children of the wealthy and prominent families; it means the progeny of the sane, moral, mentally and physically sound, which is a lineage greater than that of a king. As race builders we are responsible for those who follow, and as patriots should adopt for our war cry a sane and healthy nation. The country needs the progeny of the moral, mentally strong and virile for the upbuilding of a race of people who should become the great leaders in the world.

Many of the states have already passed laws forbidding the mating of the insane, feeble minded, imbeciles, epileptics, drunkards, narcotic addicts and those afflicted with venereal diseases. Laws have also been passed in California, Indiana, Nevada, New Jersey, New York and Washington, legalizing the sterilization of the defective, pauper and criminal classes. The great Creator suggested the enactment of such a law when he sentenced the defective husband or wife to a childless life. No one should be permitted to marry unless authorized by a board of medical examiners. Applicants should be pronounced free from all moral, mental and physical conditions which effect heredity. Disqualifying causes should include the alcoholic addict and sex violator just as well as the mental and physical defective.

Alcohol should be regarded as the most dangerous narcotic the world has ever known, and its addicts degenerate, just the same as those who use morphin, cocain or other dangerous narcotic drugs. Research, experiments, the epileptic and feeble-minded institutions, insane asylums, prisons and the post-mortem table constantly teach us what alcohol is doing for the human race. There remains no longer any doubt of the special and general results of the great "racial poison" on child, man, race or community. Few people understand the far-reaching effects of alcohol on the family, and the race at large. It is an intricate and difficult problem to approach on account of its social connection with many of the most prominent and influential men and women of the country, who still hold very liberal views concerning its use. The effects of alcohol on the intellectual and mental faculties generally have been made the subject of a most exhaustive study, and we find all of these faculties lowered, even through its moderate use. This is the unanimous verdict of Kraepelin, Fürer, Hodge, Crothers, Fisher and other great authorities on the subject. From a careful study of vital statistics it has also been proven that alcohol even in moderate quantities shortens life, while total abstinence increases it. Besides its mental effects it is largely responsible for the diseases of physical degeneracy which are located in the brain, nervous system, heart, arteries, liver, kidneys and digestive system. From the tables prepared on heredity it has been noted that the children of drinking parents frequently suffer from forms of nervousness and erraticism besides the more serious diseases and conditions of degeneracy.

The distinguished dean of your faculty, Dr. T. D. Crothers, states that he has observed among 500 cases of alcoholism 225 with a distinct history of parental inebriety, while Dr. Norman Kerr, president of the British Society for the Study of Inebriates, informs us that he has observed among 1500 cases of alcoholism 755 with the same unfortunate history. The child conceived by an intoxicated parent is never up to the child conceived by sober parentage, and rarely rises above mediocrity. While there is more or less immunity to the alcoholic addict, there is never immunity to the germ plasm which is invariably injured by the slightest dilution of alcohol in the blood. Dr. Stockard states that diseased and weakened germ cells give rise to defective individuals under all circumstances, while perfect germ cells produce a perfect offspring only, when the embryo develops in a normal or favorable environment. This fact has been demonstrated in alcoholic experiments with eggs of the lower vertebrates, which develop outside of the body. Fresh fish eggs, when exposed even to the fumes of alcohol, produced veritable monsters.

Racial degeneracy has overtaken the American negro since his emancipation in 1863. This is no doubt due to his change from total abstinence and healthy surroundings as a slave, to alcoholic dissipation and a poor environment as a freedman. Before the Civil War the negro was trustworthy, truthful and practically free from mental and physical blemishes, while to-day a large number of them are immoral, untruthful, indolent and degenerate. Besides, their longevity has diminished and criminal tendency greatly increased. German vital statistics have shown the defective results from alcohol (beer) among the sons of brewery employees, seventy-six per cent. of whom were found unfit for military service. There can be no reasonable doubt but that the crime and degeneracy found among the lower classes of the English people are largely due to the general use of alcohol among both sexes. The mental and physical integrity of our nation until now has been preserved through the germ plasm of our high minded and intelligent American mothers who formerly rarely indulged in alcoholic beverages. To-day the growing tendency among young women to the use of cocktails and high balls is becoming the greatest menace of the age, and unless checked will lead to the degeneracy of our race, as is the case with France and other European countries where alcoholic beverages are in general use.

Following the general use of whisky as a beverage fifty years ago many of the most prominent and intellectual families of our country have been eliminated and not infrequently in the second generation. Many of their representatives became drunkards and died childless, or left children cursed with feeble mind, epilepsy, tuberculosis, insanity, or some other form of degeneracy, which rendered fertility impossible. Study the family records that have been gathered by the eugenist on the subject of alcohol and the thinking world will stand aghast. Among the statistics in my possession are many quite similar to the following: Judge C. and wife, superior people, with a family of four sons and three daughters. The Judge was an intelligent gentleman of the old Southern school, who took his toddies regularly and occasionally "went on sprees." He died during middle age. All of the sons were of ordinary mental caliber, became alcoholic addicts and died young, several of them as pronounced drunkards. One of the boys married and became the father of a feeble-minded child. Two of the daughters died at a young age, one a morphin addict, the other from cancer. The third daughter, now an old woman, suffered from erraticism, which rendered her intolerable to society. Another equally significant family history: Mrs. J., a beautiful woman of healthy, moral family, was married at the age of twenty to a young man of equal social standing, who drank regularly, as was the custom of the day, and on occasions became as "drunk as a lord." During his brief married life of twelve years his wife bore three sons and two daughters. All of the sons and one daughter became alcoholic addicts and died at any early age, while the second daughter became a morphin fiend and a sex violator. After the death of the first husband the widow married again, this time to a total abstainer of excellent character. Singularly enough, she again bore five children, three boys and two girls, all of whom developed into splendid men and women and became valuable members of society. Prof. C. R. Stockard, of Cornell, recites the experience of a sober, industrious woman who married a man of high moral habits and became the mother of three normal children. After the death of this husband she married a man of intemperate habits and bore three more children, one of whom became a drunkard, one an epileptic and one a degenerate. She married again after the death of the second husband, this time to a man of fine type and became the mother of two normal children.

The rôle that alcohol plays in disease, pauperism, racial degeneracy and graft makes its control by the state absolutely necessary, and in order to save society the saloon must go. To accomplish this necessary reform no candidate for state or municipal office should be endorsed by the medical profession who had not stated satisfactorily his platform on the control of the three great social evils—prostitution, venereal disease and the saloon. Total abstinence should become a requirement of every official holding office within the suffrage of the people. The importance of the duties which law-makers, judges, state and municipal officials, the army, navy and police are called upon to perform, demands the highest class of intelligence and efficiency, qualities which are impossible with drinking men. Besides, the alcoholic addict is more liable to lend himself to graft and corruption in office than the total abstainer. The physician who strives for racial perfection must cling to total abstinence, for there can be no compromise on the great question of temperance. In order to build up a strong, virile people we must protect the young against the race poison remembering that the child of to-day is the citizen of to-morrow. At times you may be called upon to defend medicine against many irrational schools, cults and societies, and will be dismayed at the array of plausible arguments submitted in their defense. It seems impossible to realize that such a large body of educated people exist in the United States, who inveigh against vaccination for smallpox, which is one of the greatest boons ever conferred upon suffering humanity. In spite of the millions of lives that have been saved through the beneficence of vaccination, live societies exist to-day in our country which are endeavoring to prevent its practice by law. Such sceptics should go to our tropical colonies and investigate the wonderful results that have been achieved since 1898. Smallpox, which carried off thousands of the natives annually in Porto Rico and the Philippines before compulsory vaccination was enforced, have entirely disappeared.

Physicians should take an active interest in the affairs and politics of the community in which they live, especially in those matters which pertain to public health and the sociological condition of the people. They should be active in general sanitation, public education, the saloon and labor question, the social evil and venereal diseases, the condition of the poor and everything which concerns the welfare of the people. The present interest displayed in the study of heredity and the practice of eugenics indicates plainly that the world is on the verge of a great sociological revolution, which will prove more beneficial and far-reaching in its effects on humanity than its deliverance from feudalism and intellectual restriction of the middle ages. Never in the history of the world were strong and courageous advocates of eugenics more urgently needed than now; live wires with progressive ideas, who are able to teach our young men and women the necessity of selection and elimination in marriage, in order to raise children who will prove a blessing to the family and an honor to the country. With a full knowledge of the fearful results of heredity and alcohol, it becomes your bounden duty as physicians to impart these great lessons of life to everyone within the sound of your voice. Teach them that the child should be started right in its mother's womb and that after its birth trained in honesty, temperance and the highest standards of life.

If you remain faithful to your calling, within a few generations America will be blessed with a race of moral, mental and physical giants, and your lives will not have been in vain.

WHAT IS THE MATTER WITH THE MEDICAL PROFESSION?*

BY JAMES P. WARBASSE, M.D.,
Brooklyn, N. Y.

The science of medicine has made wonderful progress in the past fifty years, much knowledge has been added, and its capacity to help the sick and preserve the well has been greatly increased; but the average patient, with the average ill, who consults the average doctor does not get the benefit of it. This is because the doctor can not afford the pains to give it, nor the patient the money to pay for it.

Most doctors and most patients are poor: and nearly all doctors and patients live in the fear of poverty, which is almost as bad as being poor. The poor man is always a dangerous person. It is the same, whether it be doctor or plumber who feels the pinch of poverty. The poor doctor is urged toward quackery, abortions, and ill-advised treatments; the plumber, out of a job, easily becomes a "hold-up" man. The fact

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that patients are poor means that they demand cheap cures, to gratify which the doctor too often must play the part of a charlatan.

The discussion of the causes of poverty is not within the scope of this article, but I believe poverty is capable of elimination from society, just as I believe that smallpox, typhoid fever, and tuberculosis are. There is abundant wealth for all; and there is no good reason why the working class, which produces the wealth, should have the least of it; neither is there reason nor justice that the man who works faithfully at useful labor should live and die in poverty.

There are many things which once were private enterprises, much exploited for profit, but which now have been taken out of the hands of competitive business, and are controlled by the people. As examples of the socialized necessities may be mentioned the public schools, the highways, water supply, street cleaning, and sewage disposal. The air for our lungs remains public property, but the food, oil, coal and wood have been taken away from the people and not yet restored. All of these are important; so is the public health. Some day the care of the public health will be organized from top to bottom throughout as a public service; and we shall have each district with its medical corps. The sanitarian will be the strong man. His first business will be to keep his district as free from sickness as possible. His second business will be to keep his death rate low. This he will accomplish with the coöperation of the district hygienists, internists, surgeons, and other specialists.

The criminal now receives the attention of the state, why not the sick man? The two have more in common than is yet realized. Society is beginning to acknowledge that the criminal is more sinned against than sinning. He is a victim of social maladjustment. Society is responsible for him. It made him what he is. This is equally true of the sick man. If society did not directly inflict him with his disease, it is apt to be the case that he is suffering as the result of lack of education; or his disease is the result of the wretched economic conditions imposed upon him. The sick man, the man out of a job, and the criminal are equally social problems. Society must soon answer in the affirmative the question that has come down through slavery and feudalism, "Am I my brother's keeper?" It must learn the meaning of the old gospel that, "no man liveth unto himself alone."

It is owed to the sick man, just as much as to the criminal, the insane or the idiot, that society treat him as its especial obligation. How much more should this be the case with the child-bearing woman, who is now left in the hour of her travail to the chances of medical traffic for profit?

When the workingman's house is on fire, the community provides for him the most effective measures which wealth can secure to avert disaster. When his baby is stricken with disease he is left to the mercy of commercial exploitation. Property, as an outgrowth of feudal tendencies, is still regarded by lawmakers as more precious than human life. The socialized fire-fighters prosper, as the fire is quickly and effectively extinguished; the commercialized disease-fighter prospers as the patient is saved with the greatest amount of fuss and the greatest expense that the employer can, with satisfaction, be mulcted of. This latter, fortunately, is not yet the invariable rule in medical practice. Let us say it is an exception to the rule. But the fact is not to be disputed that "business methods" in medicine are steadily on the increase, as the pinch of economic necessity becomes greater.

Municipalities that have moved forward a step now have bureaus of fire-prevention. Some day more public attention will be given to the prevention of disease. If the sick man is to be the care of the people, and if the state is to be held responsible for him, surely it should have a still greater concern for the well man, for of the two the latter is the more important.

The doctor has his talents to sell. He is in the market. The competition is fierce. Most doctors are capable and able to deliver the goods. But comparatively rarely can they afford to give the time to do the best possible thing for the patient. As a business enterprise, the practice of medicine, an occupation capable of most unselfish and beneficent activity, degrades its practitioner to the necessity of frittering away precious time in placating the whims of hysterical females, recounting his own prowess, animadverting upon his competitors, and stultifying himself with the mediocrity of conformity. The interest of business demands it. The general practitioner who neglects the methods of the tradesman, even though he gives to his patients the benefit of surpassing skill and knowledge, is apt to languish for a clientele. An unnecessary equipage, entailing a serious drain upon his finances, is often one of the "successful" physician's burdens. It is difficult, nay, impossible for him to do otherwise. He is surrounded by the competitive system, and, unless he conforms to the methods of the warfare about him, he must go down.

There are physicians with independent incomes, the results of the fortunes of others; and there are those whose unusual talents bring them so much work as to place them outside the circle of competition. Both of these are exceptional. The doctors, along with all who have to work for wages, are feeling the effects of the gradual gravitation of the means of the production of wealth into the hands of the few, and the resulting growing discrepancy between the rewards for honest work and the cost of living.

It was not many years ago that a man who had a steady job was not thought of as a poor man. "He works every day" meant that he was not poor. To-day the reverse is the case. To say that a man is a workingman, that "he works every day," is equivalent to saying that he is a poor man. It requires but a few days of idleness to exhaust his surplus store; and then he must accept charity, steal or starve. As to hard work earning him rest in his old age, it does not come except as the dole of charity.

The capitalistic system under which we live is increasing the cost of living faster than it is increasing the wage-earner's income. This is inevitable. Every economist who has grasped the problem since Karl Marx wrote "Das Kapital" has recognized this as an inevitable outcome of the present system. It will continue until the majority of the people recognize it as intolerable.

Let us not make the mistake in this connection of pointing to the public service as corrupt, and politics as more corrupt. They have been corrupt, and they will continue to be, so long as surrounded by the capitalistic, competitive system. But when the people own the necessary means of production, when they own the social necessities, when the fundamental movement to abolish poverty is instituted, then the chief corrupting influences will be removed. The corruption of public officials is accomplished mainly by business interests. It is the great corporations that corrupt our legislative bodies. This is so well recognized that we grow indifferent to it, and the horror of its consequences scarcely sinks into the public conscience. The express companies are, but the Post Office Department is not, corrupting legislatures. Private corporations are corrupting the Post Office Department, but the public is not interested in corrupting itself.

The medical corps of the army and navy are removed from the field of commercial competition, and although surrounded by the pernicious influences of the competitive system, they maintain a high standard of efficiency. The inconsistency of our method is that the medical treatment of soldiers is socialized. Soldiers receive the best of medical attention, not as a charity, but as a right. But the laboring man and woman and child are left without such consideration. They who do the work of the world, and without whom no army could be assembled, are called "hands," and are consumed as so much raw material to be fed to the flames of commerce. The nearest society comes to giving them the attention that it accords to its soldiers is when abject poverty overtakes them. Then they may have bestowed upon them, by the Departments of Charities and Correction, medical attention.

Some day the workers, who create the Nation's wealth, and the women who bear the children, will be appreciated as being of an importance equal, at least, to that of the soldier. Our civilization has not yet reached that point, for the worker has only just emerged from serfdom, while the soldier has behind him the prestige of many thousand years of fatuous superiority.

When the practice of medicine is taken out of the realm of commercial competition, the aptitude of the physician may then be considered. At present there is no vocational selection with reference to adaptability. In the public service there is. In medical practice there is dreadful waste of talent. There is no means for selecting and appointing to be a surgeon the man best qualified for surgery. It is largely a matter of chance. The result is that men who should be alienists are surgeons, and men with wonderful natural aptitude for surgery are general practitioners.

The socialization of medicine does not mean that there shall be no private practitioners. Undoubtedly there will be, just as there will be private business enterprises in fields which do not involve the necessities of life, or which spring up because of individual preference or expression. But whatever springs up outside the state, if it is desirable for all the people, will find itself shortly taken over by the public. A physician of some special talent, or anarchistic taste, may prefer to withhold himself from the state and stand alone. Patients should continue to have the privilege of delivering themselves into the hands of private enterprises, just as now, if they so desire.

Quackery is one of the results of our competitive system. The patent medicine business depends upon advertising. Competition compels the newspapers to collusion with this class of crime. Self-medication and the resort to quackery are encouraged as business enterprises by all the powers of business, as well as by the economic necessities of the patients. Give the workingman the privileges of competent medical advice without cost, precede this by the education that is now denied him, and he will spend little money on quackery. Even though he might be inclined to, there should be no quackery for him to patronize. In a country socialized in the interests of the people, and the god of business profits cast down from its throne, a league for the freedom of quackery could not exist.

The socialization of the care of the public health is not going to check scientific competition. It is going to stimulate it. The greatest scientific advancements in medicine are not now coming from the field of the commercial struggle for existence occupied by the medical practitioner. They are coming from the men who, by public or private means, have been removed from its blighting influence. The financial reward has not been the object which has stimulated the great medical discoveries. Now it is well recognized that the doctor who is engaged in the competitive struggle for a livelihood is the least apt to contribute to the progress of science. Surgery is the last exception, but it is rapidly becoming commercialized, and soon its best progress will depend upon the financially independent workers.

Institutions endowed by private means or supported by the state, institutions removed from the field of business competition by virtue of the extraordinary talents of their workers, and branches of the government maintaining medical departments are the sources to which we now look for the best advancement of medical science.

Servetus and Harvey were not spurred on to the discovery of the circulation of the blood by the expectation of profits. One was burned at the stake and the other was mobbed for his pains. Read the life of Pasteur, the founder of bacteriology and the science of infections, and see how utterly free from the glimmer of gold is the work of this great man. Yellow fever, malaria, typhoid, tuberculosis, hook-worm disease, sleeping sickness, and rabies have had their secrets discovered and the possibility of their mastery demonstrated by scientific men competing not for profit but for service. That the "curse of gold" appeared in the development of anesthesia is the one stigma upon this great boon; but had the dirty question of profit never entered, we should have had anesthesia just as soon.

The whole history of medicine, with its splendid list of martyrs, is a glorious refutation of the sophistry that competition for profit is important to human progress. The competitive system, which surrounds and harasses medical advancement, hindered it from the beginning, and retards it still.

When humanity throws off the burden of competition for the necessities of life; when the distribution of wealth is regulated by the deserts and needs of the people; when human life and happiness shall be the object of solicitude of the state, the profession of medicine will take its place as the great conserver of the most precious of the Nation's natural resources.

The matter with the medical profession is that the doctor is a private tradesman engaged in a competitive business for profit. He should be a public servant. His importance to the people and the value, to the nation, of their physical well-being demand it, and some day will receive it.

THE INDOMITABLE SOUL.

There are songs that are sighings, and smiles that are tears,
Over hopes that lie dead in the midst of the years,
When the garden of life has no bird on the spray,
And the blooms that adorned it have wither'd away.

The song has no gladness, the smile has no grace,
They are veils to keep silent the world they must face;
But the heart that is throbbing so wildly below
Is waging its fight with the demon of woe.

Wait, wait but awhile, and thou need'st not be told
That the heart of the fighter is purer than gold:
That the sunlight has climbed o'er the clouds of defeat,
And the song it is joyful, the smile it is sweet!

For there burns in the depths of the dominant soul
A light never quenched till it reaches its goal:
And the spirit undaunted, unawed by the strife,
Is worth all the blooms in the garden of life.

—R. G. H. Osborne, M.D., *Bucks Co. Med. Monthly.*

Successful prosecution of illegal practitioners of medicine depends first of all on the disposition of the authorities to prosecute. There are exceptions, but as a rule our courts are ready and willing to get in behind genuine fakers who are violating the medical practice act, if anything like proper evidence is forthcoming. Officers have long since learned that it does not pay to arrest alleged violators of any law merely on suspicion, unless a real crime has been committed. It is not sufficient to believe or even to know, that a law has been violated: there must be positive proof before the courts can afford to convict. The thing for us to do then, if we desire to enforce the medical practice act, is to assist in securing the evidence. Whenever we undertake prosecutions in earnest and go about it in an intelligent manner, success usually follows our efforts. —Editorial, *Texas State Jour. of Med.*

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Bucks—A. F. Myers, M. D., Blooming Glen.
Butler—William B. Clark, M. D., Butler.
Cambria—Harry J. Cartin, M. D., Johnstown
Carbon—James B. Tweedle, M. D., Weatherly.
Center—James L. Seibert, M.D., Bellefonte.
Chester—D. Edgar Hutchison, M. D., East Downingtown.
Clarion—R. A. Walker, M. D., West Monterey.
Clearfield—George B. Kirk, M. D., Kylertown.
Clinton—R. B. Watson, M. D., Lock Haven.
Columbia—Luther B. Kline, M. D., Catawissa.
Crawford—C. C. Laffer, M. D., Meadville.
Cumberland—Edward R. Plank, M. D., Carlisle.
Dauphin—Norman B. Shepler, M. D., Harrisburg.
Delaware—Walter E. Egbert, M. D., Chester.
Elk—S. G. Logan. M. D., Ridgway
Erie—Harrison A. Dunn, M. D., Erie.
Fayette—John P. LaBarre, M.D., Waltersburg.
Franklin—John J. Coffman, M. D., Scotland.
Greene—Ira D. Knotts, M. D., Davistown.
Huntingdon—John M. Keichline, Jr., M. D., Petersburg.
Indiana—James G. Fisher, M. D., Indiana.
Jefferson—James C. Borland, M. D., Falls Creek.
Juniata—
Lackawanna—Harry W Albertson, M. D , Scranton.
Lancaster—Walter D. Blankenship, M. D., Lancaster.
Lawrence—W. A. Womer, M. D., New Castle.
Lebanon—George R. Pretz, M. D., Lebanon.
Lehigh—William A. Hausman, Jr., M. D., Allentown.
Luzerne—Herbert B. Gibby, M. D., Wilkes-Barre.
Lycoming—Wesley F. Kunkle, M. D., Williamsport.
McKean—James Johnston, M. D., Bradford.
Mercer—Patrick E. Biggins, M. D., Sharpsville.
Mifflin—Frederick A. Rupp, M. D., Lewistown.
Monroe—Frances H. Brown, M. D., North Water Gap
Montgomery—Edgar S. Buyers, M. D., Norristown.
Montour—Cameron Shultz, M. D., Danville.
Northampton—Wm. P. Walker, M. D., South Bethlehem
Northumberland—H. W. Gass, M. D., Sunbury.
Perry—
Philadelphia—Arthur H. Hopkins, M.D., Philadelphia
Potter—E. H. Ashcraft, M. D., Coudersport.
Schuylkill—George O. O. Santee, M. D., Cressona.
Snyder—J. O. Wagner, M. D., Beaver Springs.
Somerset—H. C. McKinley, M. D., Meyersdale.
Sullivan—Arthur J. Bird, M.D., Overton.
Susquehanna—C. C. Halsey, M. D., Montrose.
Tioga—M. Berry Longwell, M. D., Wellsboro.
Union—Oliver W. H. Glover, M. D., Laurelton
Venango—J. Irwin Zerbe, M. D., Franklin.
Warren—Charles W. Schmehl, M. D., Warren.
Washington—Joseph W. Hunter, M. D., Charleroi.
Wayne—Frederick A. Lobb, M. D., Hawley.
Westmoreland—James P. Strickler, M. D., Scottdale.
Wyoming—Herbert L. McKown, M. D., Tunkhannock.
York—Julius H. Comroe, M. D., York.

All communications should be addressed to the Pennsylvania Medical Journal, Athens, Pa.

The Medical Society of the State of Pennsylvania does not assume responsibility for any statements or opinions published in this Journal.

Athens, September, 1913.

THE SESSION OF THE STATE SOCIETY FOR 1913.

The time for the sixty-third annual session of the society approaches. It only remains for the opening on the twenty-second to show whether or not our aims that this be the most satisfactory in the society's history be fulfilled. The last Philadelphia session, held four years ago, was most successful from the standpoint of numbers present, excellence of programs, and interest in the meetings. It is hoped that this session will be even better. The section officers have selected well-balanced, practical programs for this year. The general meetings have been planned with care. The evening meetings, which have proved their value, have been increased in number. On three afternoons illustrated lectures, two of moving pictures and one of the stereopticon, will be given after adjournment of the sections. Clinics have been arranged for Monday and Friday. The list for Monday will be distributed at the time of registration; that for Friday, on Thursday at the registration booth. In this way advantage will be taken of the best the hospitals have to give. The local committee has arranged for the care and entertainment of the ladies while the members are busy in the sections. The President's Reception on

Wednesday evening will be an interesting social feature of the week. The Philadelphia County Medical Society will give a smoker to the men on Thursday evening. On Saturday, through the courtesy of the Atlantic County (N. J.) Medical Society, we will be the guests of the hotel keepers of Atlantic City.

The week then will be filled with opportunities for profit and pleasure. The Philadelphia County Society invites you and your families to come by Sunday and spend a week with us.

HENRY D. JUMP, Chairman,
Committee on Arrangements for Philadelphia County Medical Society.

ENTERTAINMENTS.

There seems to be a misunderstanding on the part of some members as to the entertainments provided for the meeting of the State Society in September. Please note the following:—

The automobile and boat trips are for women only. The smoker on Thursday evening is for men only. The visit to the University and the Tea at the Museum on Friday afternoon are for both men and women. The trip to Atlantic City is for both men and women.

Members will help the local committee if they will mark their acceptances very specifically. J.

LARGE ATTENDANCE AT PHILADELPHIA.

The applications for rooms at the various hotels and the acceptances for entertainment in Philadelphia and Atlantic City assure the large attendance which has been anticipated for the annual session this month. The program printed in the last issue confirms the promises made for an excellent scientific meeting, and the social features are limited only by the exactions of the Committee on Scientific Work that "the local profession are requested to arrange for no clinics or social functions that might interfere with the scientific program on Tuesday, Wednesday and Thursday."

Philadelphia is peculiarly adapted for a meeting place and it has the best of hotels for those wishing first-class accommodations, and those of our members wishing more modest accommodations can find good hotels, with or without meals, at reasonable rates. It is hoped that as many of our members as can do so will plan to spend the whole week at this annual gathering for social, business and professional advantage. S.

NEW REGISTRATION BLANK.

There is inserted as a supplement to the JOURNAL this month a sample of a new registration blank suggested by Dr. Cameron for use at the Philadelphia Session. The value of this blank depends largely upon the care with which it is filled out by the member registering, and for this reason the sample is sent out so that members may become familiar with it before the session opens. It will be readily understood that the four spaces for number of blank are to be filled out in the registration office and not by the member. The Bureau of Information in connection with the registration office hopes to be of service to all by being able to locate at any time the whereabouts of any member who has registered. S.

CHANGES IN MEMBERSHIP OF COUNTY SOCIETIES.

The following reports have been received since the August JOURNAL was printed:—

ALLEGHENY COUNTY: *Removal*—Walton Forest Dutton from Carnegie to Caldwell, Ohio. *No Longer Members*—J. Harry Anderson, Herbert S. Arthur, John W. Brown, William J. Crookston, August H. Eggers, Allen G. Gantt, Maurice F. Goldsmith, Morris A. Goodstone, David E. Griffith, John F. Haben, William E. Hodgson, W. Herbert Ingram, T. D. Barton Johnson, Joseph W. Kean, William R. Lyon, George S. McKnight, John K. Sterrett, William H. Weber, Charles A. Wishart.

ARMSTRONG COUNTY: *Death*—Robert P. Hunter (Jefferson Med. Coll., '69) was found dead in his bed in his home in Leechburg, August 13, aged 77.

Berks County: *New Members*—H. Melvin Allen, Daniel Nicholas Bertolette, Reading; Robert Mackey Alexander, Wernersville; Charles F. Smith, Topton.

Bucks County: *No Longer a Member*—Alvah M. Stafford.

Cambria County: *New Members*—Benjamin F. Bowers, St. Benedict (by transfer from Indiana Co.); Seward R. Davison, Johnstown; Samuel Gross, William G. Turnbull (by transfer from Philadelphia Co.), Cresson; William L. Helsel, Scalp Level; Joseph V. Maucher, Carrolltown; Walter C. Raymond, George I. Yearick, Lilly. *Death*—Joseph G. Glass (Jefferson Med. Coll., '87) in his office in South Fork, July 19, from hemorrhage due to a puncture of the jugular vein, believed to have occurred while he was opening a boil on his neck, aged 54. *No Longer Members*—Charles E. Born, Henry L. Carlisle, Edwin H. Lowe, Samuel W. Worrell.

Carbon County: *New Member*—John C. Gable, Palmerton.

Clearfield County: *No Longer a Member*—Hiram O. King, Curwensville.

Crawford County: *New Member*—David C. Mock, Cambridge Springs (by transfer from Jefferson Co.). *No Longer Members*—Charles W. Burgwin, Susan F. Rose (resigned); Jay C. Coulter (removed from state).

Dauphin County: *No Longer Members*—William C. Baker, Robert R. Church, Claude J. B. Flowers, Ira A. Keiter, Daniel W. Schaffner.

Delaware County: *No Longer a Member*—Walter Webb.

Elk County: *No Longer Members*—Bertram A. Beale, Howard C. Crum.

Erie County: *No Longer a Member*—John W. Schmelter.

Fayette County: *New Member*—Charles Dana Bierer, Uniontown. *Removal*—John F. McCullough from Whitsett to 5304 Penn Ave., Pittsburgh (Allegheny Co.). *No Longer a Member*—James L. Junk, Connellsville

Franklin County: *No Longer a Member*—Alvin D. Dalbey.

Huntingdon County: *Removal*—Charles R. Bush from Orbisonia to 1433 Walnut St., Philadelphia (Philadelphia Co.). *No Longer a Member*—John M. Steel (resigned); Samuel Gregory.

Indiana County: *New Members*—James A. Bryson, Creekside; John B. Carson, Blairsville; William M. Scott, Harrisburg (Dauphin Co.). *Transfer*—Benjamin F. Bowers to Cambria County Society. *Removal*—Clarence C. Spicher from Starford to Johnstown (Cambria Co.). *No Longer Members*—N. Frank Ehrenfeld, James H. Peterman.

Jefferson County: *Transfer*—David C. Mock to Crawford County Society. *Removals*—Arthur R. McNeil from Westville to Coal Glen; Roy L. Young from Punxsutawney to Ludlow (McKean Co). *No Longer Members*—S. Meigs Beyer, Carl B. Cranmer, Norman W. Smith, Alexander C. Whitehill.

Juniata County: *No Longer a Member*—Darwin M. Crawford.

Lancaster County: *New Members*—Albert Joseph Bertram, Quarryville; John F. Mentzer, Elmore R. Miller, Ephrata; Tobias C. Shookers, Lancaster. *No Longer Members*—Joseph C. Jenkins (left state), John F. Hope.

Lawrence County: *No Longer Members*—Herman D. Boyles, Charles W. Davis, W. G. Evans, John D. Tucker.

Lehigh County: *Removal*—George S. Deibert from Allentown to Athol (Berks Co.).

Luzerne County: *Deaths*—William C. Gayley (Univ. of Pennsylvania, '81) in Hazleton, August 16, aged 54; Charles J. McFadden (Univ. of Pennsylvania, '91) in Pittston, September 3. *Removal*—Robert P. Beckwith from Plymouth to Rosemary, N. C.

Mercer County: *No Longer Members*—Thomas J. Grace, Ralph Heilman, John R. McCartey, Edwin M. McConnell, Beriah A. Montgomery.

Mifflin County: *New Member*—Elizabeth Allison, Madison, Wis.

Montgomery County: *Death*—Joseph Kirby Corson (Univ. of Pennsylvania, '63) in Plymouth Meeting, July 24, aged 76. *No Longer Members*—Albert M. Baggs, George H. Clapp, Alexander R. Evans.

Northampton County: *No Longer Members*—David F. Bachman, Rollo H. Hoey.

Philadelphia County: *New Members*—Frank G. Bishop, Reed (Indiana Co.); Eugene A. Heilman, Harvey W. Kline, Charles J. Schneider, George W. Schwartz, Philadelphia. *Death*—D. Cameron Bradley (Univ. of Pennsylvania, '95) in Philadelphia, recently, aged 38. *Transfer*—William G. Turnbull to Cambria County Society. *Removal*—George W. Rockwell from Philadelphia to Box 93, Siegfried (Northampton Co.). *No Longer Members*—Howard S. Anders, J. Robbins Bean, Francis F. Borzell, Ward Brinton, Stillwell C. Burns, Edgar H. Byers, William U. Charlton, E. Sherman Clouting, James R. Crawford, Samuel Friedenberg, Charles L. Furbush, W. Joseph Hearn, J. Henry Hinchcliff, George O. Jarvis, Harry B. Keech, Robert S. McCombs, James W. McConnell, Valentine R. Manning, Thomas Matlack, Evan W. Michener, Gerald D. O'Farrell, Jr., Horace D. Perlman, Joseph A. Rainville, C. Albright Rinehart, Samuel L. Rubinsohn, Hyman I. Schenker, Henry B. Schmookler, George B. Slifer, Thomas W. Tait, Mervyn R. Taylor, Montrose G. Tull, Simon Wendkos.

Schuylkill County: *No Longer Members*—Louis F. Donaghue, James M. Monaghan, David Morgan, Edgar E. Shifferstein, Charles V. Wadlinger.

Snyder County: *Death*—Frank J. Wagenseller (Univ. of Pennsylvania, '78) of Selins Grove, in Philadelphia, September 5, following an operation, aged 58. *Removal*—Dwight E. Long from McKees Half Falls to Freeburg.

Tioga County: *No Longer Members*—John R. Davies, Frank Mastin.

Venango County: *No Longer a Member*—William G. Johnston.

Washington County: *No Longer Members*—Calvin R. Megahan (left state), James H. Corwin, Parry B. Larimer, John A. Letherman, Walter J. Shidler.

Wayne County: *No Longer Members*—Alfred H Catterall, Pierson B. Peterson.

Westmoreland County: *New Members*—Louis J. C. Bailey, Charles A. Wynn, Greensburg. *Removal*—John S. Crawford from Greensburg to Jeannette.

Wyoming County: *New Member*—Charles R. Newton, Nicholson. *Removal*—Walter M. Cress from Tunkhannock to Atkinson, Ill.

Present membership, 6029. S.

STATE NEWS ITEMS.

BORN.

To **Dr. and Mrs. LeRoy Augustus Wilkes**, Philadelphia, on August 4, a son.

To **Dr. and Mrs. Fred P. Simpson**, Mapleton Depot, on July 17, a son, Richard Carson Simpson.

MARRIED.

Dr. Francis Roman Wise and Miss Rupp, both of York, in Harrisburg, August 18.

Dr. Jacob B. Chaiken and Miss Jeannette G. Kirkel, both of Philadelphia, September 7.

Dr. Edwin Stanley Cooke and Miss Anna Barrett, both of Philadelphia, September 1.

Dr. David W. Morgan, Auburn, and Miss Edna C. Lindenmuth, in Reading, August 15.

Dr. Matilda Osborne, Philadelphia, and Rev. Samuel Tichner, Chicago, Ill., August 20.

Dr. Edward J. Deibert, and Miss Flora Bader, both of Hellertown, in Birdsboro, August 5.

Dr. Robert B. McCay, and Miss Nellie Glenn Farnham, both of Sunbury, at Philadelphia, August 18.

Dr. Byron P. Walker, West Monterey, and Miss Dorcas Neal Johnston, Pittsburgh, August 26.

DIED.

Dr. Philip S. Fisher, (Univ of Pennsylvania, '65) in Zion, August 19, aged 68.

Dr. John Windle (Univ. of Pennsylvania, '54) in Hamorton, August 6, aged 88.

Dr. Theodore Robert Miller (Univ. of New York, Med. Dept., '86) in Pittsburgh, July 31, aged 53.

Dr. Alfred Lee (Univ. of Pennsylvania, '65) in Easton, August 26, following an operation, aged 73.

Dr. Thomas Langan White (Jefferson Med. Coll., '74) in McKeesport, August 24, of pleuropneumonia, aged 60.

Dr. Augustus Hetrick (Eclectic Med. Col., Cincinnati, '58) in Wellsville, September 6, from the effects of cholera morbus, aged 78.

ITEMS.

Philadelphia, September 22 to 26, then Atlantic City.

The York County Medical Society has instructed a committee to begin prosecution against all illegal practitioners.

Dr. George P. Muller has been elected professor of surgery in the Philadelphia Polyclinic, succeeding Dr. Lewis W. Steinbach, deceased.

Dr. James C. Byrnes, medical director, retired, of the United States Navy, has been appointed medical director of the Jefferson Medical Hospital.

Dr. Philip H. Schwartz (Univ. of Pennsylvania, '12) has completed his internship at the Robert Packer Hospital, Sayre, and has opened an office at Towanda, Pa.

Oppose Army Canteen. At the convention of the Catholic Total Abstinence Union in Philadelphia on August 8, resolutions were adopted opposing the restoration of the canteen in the United States Army.

Dr. Milton B. Hartzell, Professor of Dermatology at the University of Pennsylvania, has been appointed assistant diagnostician and consultant in the Bureau of Health, to succeed Dr. Jay F. Schamberg, resigned.

Eye Dispensary Branch to be Opened in School. A branch of the Eye Dispensary of the Philadelphia Department of Public Health and Charities for the examination and treatment of the eyes of school children has been established at the Southwark School at Ninth and Mifflin streets. Dr. William J. Ryan has volunteered to do the work.

After Illegal Practitioners. The Allegheny County Medical Society, through a committee, is making commendable efforts to lessen the number of quacks and illegal practitioners of various cults in Pittsburgh. Numerous arrests have been made. So far as our clippings show, only one of the persons arrested is a legal practitioner. Dr. Samuel Fruchs, a graduate of the Eclectic Medical College of the City of New York, class of 1902, was on August 28 committed to jail in default of bail on the charge of assault and battery in connection with a sixteen year old girl patient.

A Coroner's Verdict. The Coroner's jury in the case of Miss Pauline B. Loos, the Crafton school clerk, returned the following verdict: "Pauline B. Loos came to her death in the Allegheny river, her body having been recovered Friday, August 15, at 11 A.M., at Sandy Creek, Pa., and from the evidence and post-mortem examination, the jury find death was due to drowning; and we, the jury, recommend that all practitioners under the guise of osteopathy, chiropractic, neuropathic and naturopathic, be investigated by the police of the city and county." Later Dr. Adna D. Bartram, an osteopathic practitioner was arrested on the charge of violating the Act of Assembly of 1911. He is said to have treated Miss Loos for seven years.

Philadelphia Child Hygiene Association Seeks Charter. Application has been made for a charter for the Child Hygiene Association, under the name of the Child Federation. It is the intention of physicians who are directing the work, to extend it throughout the city, forming branches in various localities under the control of a central organization. The main object will be to reduce infant mortality through educational propaganda, to take the form of neighborhood shows, demonstrations and meetings. The incorporators and directors of the new association are as follows: President, Edward W. Bok; vice president, Dr. Jesse D. Burks; treasurer, Albert Pepper Gerhard; secretary, Dr. Howard Childs Carpenter; Dr. Charles A. E. Codman, Dr. C. Lincoln Furbush, Dr. J. Claxton Gittings, Dr. Samuel McClintock Hamill, Dr. Charles J. Hatfield, Dr. Henry D. Jump, Dr. Theodore Le Boutillier, and Dr. Joseph S. Neff.

GENERAL NEWS ITEMS.

Atlantic City after Philadelphia Session.

The Mississippi Valley Medical Association will hold its thirty-ninth annual meeting in New Orleans, October 23-25.

Pin in Appendix. Surgeons at Mercer Hospital, Trenton, N. J., found a pin in an appendix when operating on a young lady for appendicitis.

Quinin to Cost More. The European makers have entered into an agreement to purchase annually from the Java growers of the cinchona tree bark equivalent to about one millions pounds of quinin, and it is thought that the price of quinin will go up.

Houston, Texas, has authorized the employment of a physician to be known as hygienic instructor in the public schools, who will examine both teachers and pupils.

The Fourth International Congress on School Hygiene was held in Buffalo, August 25 and 30, and was attended by more than two thousand delegates. The next session will be held in Brussels in 1915.

Diabetic Foods. A detailed report prepared by J. P. Street, chemist of the Connecticut Agricultural Experiment Station, and Lafayette B. Mendel, of Yale University, has been published and can be had free by addressing the Connecticut Agricultural Experiment Station, New Haven, Conn. See *Journal of the A. M. A.*, August 30, page 687, for editorial on "What is a Diabetic Food?"

Indigent Consumptives Should Not Go to the Southwest. The secretary of the board of health, Tucson, Arizona, sends out the following warning: So many incurable patients arrive here without means of support, and yet with hope of climatic cure and remunerative employment, that I desire these full explanations be made: (1) Such rainbow-chasing is a cruel hoax to perpetuate on a dying consumptive. (2) Comfort and treatment are expensive and continuous. (3) It is the rare exception, and growing rarer, that a tuberculous person can obtain employment, no matter how great his ability.

Gorgas to Go to Africa. In despatches from Johannesburg, South Africa, under date of August 14, it is stated that Colonel William C. Gorgas has received an invitation from the Chamber of Mines, Johannesburg, to visit South Africa, study the sanitary conditions in the Witwatersrand mines and to make suggestions as to their improvement. The special object of the conference is the prevention of epidemic pneumonia of a very fatal type among the blacks such as occurred several years ago among the negro laborers at Panama and was successfully handled by improvement of the sanitary conditions. Colonel Gorgas has accepted the invitation subject to the approval of the United States Government, and has applied for leave of absence of four months to enable him to make the journey and complete the research required.

The New York State Health Department and Sex Hygiene. In connection with the new work of the State Health Department in teaching sex hygiene, circulars have been prepared and are being circulated entitled "Sexual Hygiene for Young Women," "Sexual Hygiene for Young Men" and "Suggestions to Persons Having Venereal Diseases." The work is carried on principally by lectures and exhibits. It is proposed to reach girls working in industrial establishments. In view of the increasing prevalence of cancer in this state and the fact that cancer so often attacks one or more of the sexual organs of the female, it is proposed to include in the educational campaign some lectures dwelling on the early diagnosis, means of prevention and necessity for early skilled treatment of cancer. In this phase of the subject the State Health Department will have the coöperation of the New York State Cancer Laboratory.

The Council on Pharmacy and Chemistry. Since August 1 the following articles have been accepted for inclusion with New and Nonofficial Remedies: Electr-Hg, Comar and Company: acne vaccine, coli vaccine, pneumococcus vaccine, pyocyaneus vaccine, staphylococcic vaccine, streptococcic vaccine, typhoid vaccine, typhoid prophylactic suspension, Cutter Laboratories; melubrin, Farbwerke-Hoechst Company; scarlet fever treatment, scarlet fever prophylactic, antigonococcus serum 10 c.c. syringe, antimeningococcus serum 15 c.c. cylinder, antistreptococcus serum 10 c.c. syringe, antistreptococcus serum 50 c.c. cylinder, antipneumococcus serum 10 c.c. syringe, antipneumococcus serum 50 c.c. cylinder, normal horse serum 10 c.c. syringe, normal horse serum, 100 c.c. vial, Lederle Laboratories; antityphoid vaccine (immunizing), National Vaccine and Antitoxin Institute; whooping cough vaccine, Sophian-Hall-Alexander Laboratories.

School for Health Officers, Conducted by Harvard University and the Massachusetts Institute of Technology. Beginning this fall Harvard University and the Massachusetts Institute of Technology are to maintain in coöperation a School for Public Health Officers. The facilities of both institutions are to be available to students and the Certificate of Public Health (C. P. H.) is to be signed by both President Lowell and President Maclaurin. The object of this school is to prepare young men for public health work, especially to fit them to occupy administrative and executive positions such as health officers or members of boards of health, as well as secretaries, agents, and inspectors of health organizations. The requirements for admission are such that graduates of colleges, or technical and scientific schools, who have received adequate instruction in physics, chemistry, biology, and French or German, may be admitted to the school. The medical degree is not in any way a prerequisite for admission, although the Administrative Board strongly urges men who intend to specialize in public health work to take the degree of M.D. before they become members of the School for Health Officers.

REVIEW.

LESSONS ON THE EYE. For the Use of Undergraduate Students. By Frank L. Henderson, M.D., ex-President of the St. Louis Medical Society (1905); Ophthalmic Surgeon to St. Mary's Infirmary; Consulting Oculist to the Wabash Railway. Fourth edition, revised. Philadelphia: P. Blakiston's Son and Company. Price, $1.50 net.

This work is especially written for undergraduate students and general practitioners of medicine. The author has the faculty of crowding a large amount of material into a small space, giving the essentials clearly and concisely. The text is clear, the book is well written, and the methods of surgical procedure are in the main well established and sound in principle. That it contains little with which the specialist is not already quite familiar does not detract in the least from its value as a reliable guide to those for whose guidance the work is obviously intended. H. T.

COUNTY SOCIETY REPORTS.

BUCKS—August.

A stated meeting of the Bucks County Medical Society was held at Quakertown, August 13, with a good attendance, President Brown presiding. Dr. W. Hershey Thomas, Philadelphia, delivered an address on "Practical Dietetics." He spoke along definite lines of certain food values and how they affected the physical economy. In the discussion that ensued Drs. Hunsberger, Pursell, Wilkinson, Brown and Thomas further elaborated upon the caloric value of certain foods in defined ailments and the amount of protein that should be taken in such cases.

Anthony F. Myers, Reporter.

CARBON—August.

The Carbon County Medical Society met at the American House, Mauch Chunk, August 8, at 2:30 p.m., with Dr. E. H. Kistler presiding, and twenty members present.

The discussion on "Summer Diarrhea of Children" was opened by Dr. J. A. Trexler, all members taking part and each giving his method of treatment. Old treatments were revised and new ones presented, the principal one being the best method for relieving pain and checking the discharges by internal and external remedies, such as saline washes, and other injections. Each one went away satisfied that he had profited by being present.

J. B. Tweedle, Reporter.

CHESTER—July.

The meeting of the Chester County Medical Society was held July 8, at the Chester County Insane Hospital at Embreeville, with a full attendance. The program was in charge of Dr. Ralph C. Kell, superintendent of the hospital, who also entertained a number of his friends from Philadelphia. The report from the representative of American Medical Association was received and names of twenty-one prospective members were handed to the censors for their approval, upon which action will be taken at the next meeting. A committee consisting of Drs. John A. Farrell, Jackson Taylor and Charles M. Bullock was appointed to cooperate with the state medical society toward the elimination from the secular and religious papers of all pernicious medical advertising which is a fraud upon the public, preys upon the poor, and diminishes the chances of recovery of the sick.

An agreement has been reached between the medical society and the Directors of the Poor regarding the admission of indigent patients to the hospital and the matter has been placed upon a more satisfactory basis. A violently insane patient may now be admitted and papers prepared within twenty-four hours. Changes were made in the constitution whereby the office of treasurer was abolished and the secretary empowered to fill that office with the title of secretary-treasurer. The date of the meeting was changed to the third Tuesday in the month in place of the second Tuesday.

"Alcoholism and Epilepsy, also So-called Acute Alcoholic Epilepsy," was read by Dr. N. S. Yawger, Philadelphia; "Community Care of Contagious Diseases," by Dr. W. H. Walsh, superintendent of Municipal Hospital, Philadelphia; "Some Problems of Charity Organization," by Dr. Alex. M. Wilson, assistant director of health and charities, Philadelphia; "Monstrosities" with lantern-slide demonstrations, by Dr. R. A. Kelty, assistant pathologist, University of Pennsylvania, Philadelphia; and "Early Diagnosis of General Paralysis," by Dr. Ralph Kell, Embreeville. The last paper was discussed by Dr. M. M. Hawke of Philadelphia.

A substantial luncheon was served and much enjoyed by all present.

D. Edgar Hutchison, Reporter.

LEBANON—August.

The Lebanon County Medical Society met in Sedgwick Hall, August 12, at 3 p.m. Dr. B. F. Royer of the State Health Department spoke on "Smallpox." In reciting the history of the disease he said that it was prevalent 1000 B. C., in China, Syria, Egypt, Southern Europe and Eastern Asia. The description rendered by Isaac the Jew still stands as authentic. Its appearance in the United States was in 1718, having been brought here by Spaniards. An epidemic in Ireland in 1707 killed about 16,000 people.

The early symptoms of smallpox simulate, closely, influenza; these are constant chills, headache, fever (as high as 105-106°), vomiting or nausea, general aches and pains and vertigo. Patient may have one or all of the symptoms and in a few days feel well, only to discover, then, the dreaded eruption. Dr. Royer emphasized the precaution of closely watching such a patient, especially when an epidemic is prevalent. Diseases that also confuse are typhoid fever, measles, meningitis, acute gastritis, appendicitis, scarlet fever, chicken-pox and syphilis. Just what relation cox-pow has to this disease is unknown.

The speaker claimed that as far as the pathology is concerned there is practically nothing new. The microscope has demonstrated the skin lesions more definitely, but the facts about the contagion and development are wanting. Many hold that a virus is the agent and that it can be conveyed by the rat and flea and other insects; others hold that the air also carries the infection.

Many lantern slides were exhibited revealing graphically the lesions in all stages. Charts were shown proving conclusively the value of vaccination. In the discussion following, Dr. Royer denounced the use of the shield except for a few hours after vaccination. He recommended the application of a saturated solution of Epsom salts when any undue inflammation occurs about the scar.

George R. Pretz, Reporter.

MERCER—July.

The Mercer County Medical Society met July 11. Dr. James I. Johnston, Pittsburgh, read a paper on "Early Carcinoma of the Gastrointestinal Tract." Epithelioma of the lip, tongue, and mouth were mentioned and necessity of recognizing and correcting ulcer, due to faulty teeth, was insisted upon. Importance of examining the rectum in all obscure cases for diagnosis must be emphasized as this portion of the intestinal tract is very frequently the seat of carcinoma, and patient's statement of hemorrhoids is taken too much for granted. Early carcinoma of rectum is often amenable to surgery. The prostate as a primary focus for carcinoma must never be forgotten. Dysphagia after forty years of age would call attention to the esophagus. Stress was laid upon importance of proper use of the term indigestion, insisting that there is no such disease but that it is a symptom of a great many diseases, ranging from tuberculosis of the lung or cardiac disease to ulcer of the stomach. As recently suggested by Dr. John H. Musser, Jr., there can be made a classification, consisting of three types of manifestations, in which the chief complaint of early cancer of the stomach is, first, pain; second, sudden indigestion or dyspepsia; and, third, indefinite indigestion plus new or aggravated symptoms, these features occurring in patients after forty years of age. There is a close analogy in proper study of early carcinoma to that of early pulmonary tuberculosis. Same coöperation should exist between patient and physician, and fear of exciting suspicion of what one is looking for in a gastric case should not pertain. History as related to family, length of time of complaint, relation of pain to meals, former weight and strength, condition of blood, etc., are all of value; also a history of former possible ulcer or vomiting. In study of these patients, hospital observation is usually best. Gastric analyses, presence of occult blood in stool, *x*-ray and bismuth findings, and blood picture must all be properly made and interpreted by those whose opinions in these factors of diagnosis are reliable. Signs and symptoms of pyloric obstruction usually mean too late surgery, although there are some surgeons who operate only for this. The plates shown illustrated the manner of study of patients for obstructive ileus. The presence of mass, "sentinel gland," etc., are signs seen usually in carcinoma too late for benefits of surgery. Application of exploratory operation for diagnosis in doubtful cases is both safe and indicated. The only cure, as we know, for carcinoma is removal, when possible. After following out careful study of each case along lines indicated and no probability of cancer being arrived at, an honest opinion is, "I can not find cancer present," even if subsequently cancer should develop. Of newer means of diagnosis by a study of the blood, urine, skin, etc., none have been so far demonstrated of absolute value, but some of them would bear further investigation and trial. In the work of one of my surgical colleagues, the risk of exploratory operation is so small as to make it practically negligible from a danger point of view.

P. E. Biggins, Reporter.

YORK—August.

The York County Medical Society met in the parlor of the Colonial Hotel, August 7, at 1 P. M. Dr. Fackler presided and forty physicians were present.

Dr. Guy L. Hunner, Baltimore, addressed the society on "The Responsibility of the General Practitioner in the Diagnosis of Kidney Diseases." The speaker laid special stress upon the intelligence of the patient of to-day, who not only seeks relief, but who further asks for a most accurate diagnosis, prognosis and most skillful treatment. It is extremely essential that most accurate histories be taken in all cases, no matter how apparently trivial they may seem, and that careful and complete notes of the progress of the disease, etc., be taken in every instance. The most valuable equipment, in addition to the past and present histories, consists in the use of the eyes and hands in association with a thorough examination of the urine. A catheterized specimen should always be obtained for examination to avoid contamination; this is especially important in females. The presence of pus or blood cells, even though very few, should always be accounted for, as they always suggest the presence of some pathological condition. Cystoscopy, ureteral catheterization, the *x*-ray, and the various functional tests are useful adjuncts in determining the diagnosis and the prognosis. Dr. Hunner spoke of the relationship existing between tonsillitis and urethritis, and also appendicitis and pyelitis.

The Committee on Medical Advertising, by the acceptance of their report, were empowered by the society to begin a campaign of education against medical advertising; their expenses are to be defrayed by the society.

By a unanimous vote of the society, the suggestion of the Committee on Illegal Practice to engage attorneys to aid them in their endeavors to free York County from medical frauds and quacks was adopted. The law firm of Bittenger and Bittenger was employed for a term of one year to coöperate with the committee, the expense to be defrayed by the society.

Julius H. Comroe, Reporter.

PHILADELPHIA SESSION.

EXHIBITS.

The following are some of the firms that have purchased space for the Commercial Exhibit.

Space 1 A.—H. J. HEINZ COMPANY., Pittsburgh.

Space 5.—PHARMACEUTICAL ASSOCIATION OF PENNSYLVANIA.

Spaces 3 and 7.—SMITH, KLINE AND FRENCH COMPANY, Philadelphia.

Space 12.—PUROCK WATER COMPANY, 1224-1226 Parrish St., Philadelphia.

Purock is the best water in the world and neither effort nor expense is spared to make it so. It is produced at greater expense and with more care than any other water. A visit to our plant and a comparison will prove it. It is the only commercial distilled water which, to our knowledge, fulfills all the requirements of the Pharmacopeia, in method of preparation and in quality of finished product.

Space 13.—REBMAN COMPANY, New York.

Space 14.—REMINGTON TYPEWRITER COMPANY, Syracuse, N. Y, Space 15.—BURROUGHS, WELLCOME AND COMPANY, New York and London.

Space 17.—THE ABBOTT ALKALOIDAL COMPANY, Chicago.

Every visitor and member is invited to become familiar with the interesting section of the Abbott Alkaloidal Company. Combining the alkaloids, other active principles and specialties of this well-known house they present also a full line of Biologic products including the Abbott-Slee Diphtheria Antitoxin and Vaccine. Physicians are diagnosing more definitely to-day than ever and the Abbott Alkaloidal Company has been and is meeting a growing demand for definite, positive, dependable therapeutic measures approached by nothing so closely as by active principles. Familiarize yourself by the standard by which standardized galenicals are standardized; viz., active plant principles.

Space 18.—KATHERINE L. STORM, M.D., 1541 Diamond St., Philadelphia.

The Exhibit of the Storm Binder and Abdominal Supporter will be in charge of the Chief Fitter of the Home Office. Many established physicians already using this belt for ptoses and postoperative conditions hardly realize its usefulness in hernia, sacro-iliac relaxations, pregnancy, obesity and pertussis in infants. An investigation will prove its fitness to a wide range of unusual and often difficult conditions, requiring a firm, reliable, comfortable and washable support.

Space 19.—W. B. SAUNDERS COMPANY, West Washington Square, Philadelphia.

Will have on exhibit a number of new and important books. Worthy of special mention are: Murphy's Surgical Clinics, Dercum's Mental Diseases, Norris' Gonorrhea in Women, DeLee's New Obstetrics, New (7th) Edition of Dorland's Illustrated Dictionary, Papers from the Mayo Clinics, Faught on Blood-Pressure, Musser and Kelly's Practical Treatment, New (4th) Edition of Friedenwald & Ruhrah's Diet, New (7th) Edition of Stelwagon's Diseases of Skin, and the New (7th) Edition of deSchweinitz' Diseases of the Eye. They will also exhibit advance sheets of a number of important works now in press.

Space 20.—ZEMMER COMPANY, Forbes Field, Pittsburgh.

Will take pleasure in meeting their many friends among the medical profession. The display will be one worthy the attention of the visiting members.

Space 21.—G. H. SHERMAN, Detroit, Mich.

Space 22.—WEBER MANUFACTURING COMPANY.

Space 23.—OXFORD UNIVERSITY PRESS, 35 W. 32d St., New York.

The distinctive feature of the Oxford Medical Publications is their practical nature. Everyone of them is written by a physician with wide hospital experience, the aim being to build up a series of books that will be of the greatest possible benefit to the progressive medical man of to-day. Not only are the Oxford Medical Publications shown but a new series issued by London University is also on exhibition. Do not fail to see The Practitioners' Encyclopedia, a complete encyclopedia of medicine in one volume.

Space 24.—M. WEISSFELD.

Space 25.—SNOOK-ROENTGEN COMPANY.

Spaces 28 and 29.—H. K. MULFORD COMPANY, Philadelphia.

Spaces 30 and 31.—McINTIRE, MAGEE AND BROWN COMPANY, 723 Sansom St., Philadelphia.

Will occupy double space at entrance of exhibit hall on second floor, and will show Ophthalmologic Equipment, Eye Text Books and Test Charts. Electric Test Card Cabinets, including the new Shed-Light Reflector, exhibited for first time, which gives the best even illumination on test cards yet devised, and the moderate price adds to its popularity. Special among the Eye Testing Instruments will be the Universal Ophthalmometer and Stand, which Dr. James Thorington finds "Ideal in Every Particular." A new Self-Registering Perimeter of merit will be demonstrated with other office appurtenances.

Space 32.—J. B. LIPPINCOTT, Philadelphia.

Spaces 33 and 34.—PULVOLA CHEMICAL COMPANY, Jersey City, N. J.

Space 35.—BERGER BROTHERS.

Space 36.—HORLICK'S MALTED MILK COMPANY, Racine, Wis.

Space 37.—CARNES ARTIFICIAL LIMB COMPANY, Kansas City, Mo.

Space 38.—DR. H. M. ALEXANDER AND COMPANY, Marietta.

Will exhibit the several products of their Laboratories, which include Smallpox Vaccine, Diphtheria Antitoxin, Tuberculins, Pasteur Antirabic Treatment, Tetanus Antitoxin, and Silver Nitrate Solution. The different forms in which these products are marketed will be shown, and descriptive literature distributed.

Space 40.—MACALSTER-WIGGIN COMPANY, Boston.

Space 41.—WALL AND OCHS, 1716 Chestnut St., Philadelphia.

Will display their recently patented Test Card Cabinet, mounted on a panel stand, in conjunction with the diaphragm muscle test light and Dr. Heed's Electric Illuminator. They will show for first time a model of their lens rotating trial frame, and an improvement in marking of cylindrical test lenses; also the new Electric Perimeter, the Jung Self Registry Perimeter and Scotometer, the Zeiss Binokulare Loupe, the Zeiss Exophthalmometer, the W. and O. model series of trial lenses and the latest office treatment case, a new series of distance test types, twenty in number, all cards uniform in size and of excellent workmanship; the W. and O. One Piece Bifocal Lenses brought to a high degree of perfection. These lenses will be shown in connection with a number of the most recent improvements in spectacles and eye glasses.

Spaces 42 and 43.—RADIUM CHEMICAL COMPANY, Forbes and Meyran Aves., Pittsburgh.

Will display various preparations and applicators containing Radium. They will have on exhibit, a sufficient amount of Radium element to demonstrate the physical properties of same. An expert will give daily demonstrations (from 12 Noon to 1:30 P.M.) of the manner in which Radium and radioactive substances are tested and members possessing Radium salts are invited to submit same for measurement.

Space 44.—THE DE VILBISS MANUFACTURING COMPANY, Toledo, Ohio.

Space 45.—MICHAEL WOOLF, New York.

Space 46.—FUNK AND WAGNALLS COMPANY, New York.

Space 47 1-2.—H. S. BRUMBAUGH, Philadelphia.

Spaces 47 1-2 and 48.—CAMPBELL ELECTRIC COMPANY, Lynn, Mass.

Spaces 49 and 56.—LIFE SAVINGS DEVICES COMPANY, Chicago.

Space 50.—COLGATE AND COMPANY, 199 Fulton St., New York.

Their part in the Oral Hygiene Movement has led the company to closer coöperation with dentists, physicians and other educators as well as with parents throughout the country, to the end that Good Teeth—Good Health may be a more general condition for both grown-ups and children. You are asked to call at our Booth and talk with our representative.

Space 51.—FAIRCHILD BROTHERS AND FOSTER, Washington and Laight Sts., New York.

Space 52.—PHYSICIANS SUPPLY COMPANY, Philadelphia.

Spaces 53 and 54.—MILLER RUBBER COMPANY, Akron, Ohio.

Space 57 B.—WELCH GRAPE JUICE COMPANY, Westfield, N. Y.

Space 59.—HARVEY R. PIERCE COMPANY, 1629 Chestnut Street, Philadelphia.

Space 57 C.—MELLIN'S FOOD COMPANY, 221 Columbus Ave., Boston.

Will exhibit a new and very ingenious device in operation, displaying scientific data relative to infant feeding. The matter will be presented in such a way as to enable physicians to grasp quickly the claims made by this Company as to what their product is, its composition and usefulness as a modifier of milk for infant feeding.

Spaces 58 and 67.—D. V. BROWN, 740 Sansom St., Philadelphia.

Will exhibit a complete line of Refracting instruments and other appliances for ophthalmic work; Trial Sets, Ophthalmoscopes, Retinoscopes, Ophthalmic Cabinets, Ophthalmometers, Ophthalmic Brackets, Treatment Cases, Illuminating Devices etc. They will also display some of the latest and most effective inventions in the line of frames and lenses, such as the "Itsit Z Arm" Eyeglass, the "Bisight" one-piece bifocal, etc. A large portion of the exhibit will consist of the firm's own specialties.

Spaces 60 and 61.—BERNSTEIN MANUFACTURING COMPANY, Third St. and Allegheny Ave., Philadelphia.

Will exhibit a complete line of new improved aseptic steel Hospital Furniture, Physicians' and

Surgeons' office supplies and equipments, comprising operating and examining tables, instrument, bedside and specialist tables, Instrument, Dressing and Medicine Cabinets, Chairs, Private room and ward beds, dressing, water, utensil, instrument sterilizers. A cordial invitation is extended to visiting Physicians and Surgeons to visit our works at Third Street and Allegheny Avenue.

Space 63.—J. W. HUGHES COMPANY.

Space 65.—D. APPLETON AND COMPANY, 35 W. 32d Street, New York.

Space 66.—H. K. WAMPOLE AND COMPANY, Philadelphia.

Space 69.—TAYLOR INSTRUMENT COMPANIES, Rochester, N. Y.

A scientific demonstration of the "Tycos" Sphygmomanometer. All physicians, whether they own instruments or not, are cordially invited to attend this demonstration and any and all questions relative to blood pressure technic will be gladly answered.

Space 70.—SCHERING AND GLATZ, 150-152 Maiden Lane, New York.

Will show: Atophan, the uric acid mobilizing, analgesic and antiphlogistic drug, and Novatophan, the tasteless Atophan for hypersensitive patients. Hormonal (Peristaltic Hormone-Zuelzer), a splenic extract for the counteraction of insufficiency or absence of intestinal peristalsis. Medinal, the sodium salt of diethyl-barbituric acid, a promptly excreted hypnotic. Brovalol, a chemical compound of the active principle of valerian with bromine. Pituitary Extract—Schering, a physiologically standardized and clinically tested extract from the infundibular portion of the pituitary gland. Hegonon, a highly efficient silver proteid. Arhovin, an internal adjuvant in the treatment of gonorrhea and its sequelæ. The older preparations of the firm will likewise be on exhibit, among them Betaeucaine Hydrochloride and Lactate, Celloidin, Chloral Chloroform, Euphthalmine, Tonols, Formalin and Formalin Apparatus, Levulose, Sublamine, Trikresol, Collargolum and Unguentum Credé, Orphol and Urotropin.

Space 71.—ROESSLER AND HASSLACHER CHEMICAL COMPANY, New York.

Space 72.—P. BLAKISTON'S SON AND COMPANY, Philadelphia.

Space 75.—LEA AND FEBIGER, Philadelphia.

CLINICAL MEETS.

There will be Clinics on Monday, September 22, and Friday, September 26, the day preceding and the day following the session of the Medical Society of the State of Pennsylvania. The clinical program of these two days will begin at 9 A.M. Practically every hospital and medical school in Philadelphia will participate. The final detailed summary for Monday will be printed and ready for distribution at the Bellevue-Stratford Hotel on Sunday night and at Horticultural Hall in the Registration Department at 8 o'clock on Monday morning. The final program for Friday will be issued from the Registration Bureau on Thursday afternoon.

Clinics will be given at the following hospitals and dispensaries on one or both days: Woman's Medical College Hospital, Woman's Hospital, Philadelphia General Hospital, Jefferson Hospital, Medico-Chirurgical College Hospital, Polyclinic Hospital, University Hospital, German Hospital, Stomach Hospital, Methodist Episcopal Hospital, St. Joseph's Hospital, Gynecean Hospital, Stetson Hospital, Blockley Hospital, Philadelphia Lying-in Charity, Presbyterian Hospital, West Philadelphia Hospital for Women, St. Mary's Hospital, Kensington Hospital, Episcopal Hospital, State Tuberculosis Dispensary 21, State Tuberculosis Dispensary 931.

Lists of many of these clinics were published in the April issue, pages 580-3, and others in June, page 729, and August, page 896. The following is a list of clinics not before published.

MONDAY.

Medico-Chirurgical College Hospital.

H. J. Smith, Dermatology.

Polyclinic Hospital.

B. F. Baer, Gynecological Clinic.

G. M. Coates, Demonstration of Direct Treatment of the Eustachian Tube, Including the Yankauer Operation.

David Riesman, Medical Demonstration.

University Hospital.

H. R. M. Landis, Demonstration of Artificial Pneumothorax in the Treatment of Pulmonary Tuberculosis.

J. H. Austin, Simplified Methods of Examination of the Blood in the Diagnosis of Gout and Allied Conditions.

O. H. P. Pepper, Functional Tests of the Kidney in Medical Diagnosis.

M. H. Fussell, Hydrotherapy—Practical Demonstration.

G. W. Norris, The Differential Diagnosis between Valvular Heart Disease and Myocardial Diseases.

Alfred Stengel, The Value of Polygraphic Tracings, Electrocardiograms and Blood Pressure Estimations in Circulatory Diseases.

David Riesman, The Treatment of Heart Disease with Lost Compensation.

T. A. Cope, The Electrocardiogram, Practical Demonstration.

F. J. Cotton, Boston, Fracture Clinic. Attitude and Particularly Abduction in the Treatment of Certain Shoulder Fractures. (Monk's triangle, Penhallow splint). Special reduction movements to avoid loss of motion and deformity in elbow fractures in children exhibited on patient and demonstrated by lantern slides. Method of artificially impacting loose hip-fractures. Demonstration. Remodeling and impaction of hip-fractures with deformity. Retention of correction by attitude and by the proper use of plaster-of-paris, with particular reference to ankle-fractures. Demonstration. Treatment of os calcis fractures by breaking-up remodeling and artificial impaction. Demonstration and lantern.

C. E. Ruth, DesMoines, Ia., A Demonstration of the Entire Curability of Fractures of the Neck of the Femur by Traction Dressings. Anatomical preparation exhibiting the mechanics of the method. Lantern slides showing its efficiency. The application of the dressing.

State Tuberculosis Dispensary 21, 1639 Poplar Street.

E. M. Green, Easton, Methods of Diagnosis and Treatment of Tuberculosis.

Karl Schaffle, Demonstration of Incipient Tuberculosis.

Carl Weber, Demonstration of Tuberculosis in Children.

State Tuberculosis Dispensary 931, 1126 So. 26th Street.

C. H. Miner, Wilkes-Barre, Tuberculin Treatment in Children.

C. M. Montgomery, Demonstration of Cavity Formation in Tuberculosis.

Philadelphia Lying-in Charity.

Stricker Coles, Methods of Induction of Premature Labor.

Gynecean Hospital.

T. H. Erck, Surgical Treatment of Uterine Prolapse.

Pennsylvania Hospital Dispensary.

N. P. Stauffer, Technic of Submucous Resection for Correction of Nasal Obstruction. Local Anesthesia.

Presbyterian Hospital.

N. P. Stauffer, Technic of Tonsil Dissection. Complete Enucleation.

FRIDAY.

Medico-Chirurgical College Hospital.

H. C. Wood, Jr., Applied Therapeutics.

Polyclinic Hospital.

G. P. Müller, Surgical Clinic.

J. F. Schamberg, Lantern Slide Lecture on Diagnosis and Treatment of Syphilis.

University Hospital.

H. K. Pancoast, Value of the Fluoroscope and Skiagrams in the Diagnosis of Gastrointestinal Diseases.

F. H. Klaer, The Medical Treatment of Certain Diseases of the Stomach.

Joseph Sailer, Diseases of the Pancreas.

William Pepper, Important Features in the Diagnosis of Anemias. The Treatment of Anemic Diseases.

Herbert Fox, The Value of Blood Cultures in Diagnosis. Practical Demonstration.

J. L. Laird, Complement Fixation Methods of Diagnosis of Syphilis, Gonorrhea and Other Infections.

State Tuberculosis Dispensary 21, 1630 Poplar Street.

A. P. Francine, Tuberculin Treatment of Dispensary Cases.

F. C. Johnson, Mont Alto, Diagnosis of Incipient Tuberculosis.

State Tuberculosis Dispensary 931, 1126 S. 26th Street.

S. J. Repplier, Methods of Diagnosis and Treatment of Tuberculosis.

W. G. Turnbull, Cresson, Diagnosis of Cavity Formation in Tuberculosis.

MONDAY OR FRIDAY.

University Hospital.

J. C. Hirst, Intermediate Plastic Operations.

Drs. Daniels and Williams, Electrical Stimulation of Uterus for Lactation Atrophy, Ill-development and Sterility.

N. L. Knipe, Two-way Catheterization of Ureters, Irrigation of Renal Pelves for Pyelitis.

Kensington Hospital.

H. C. Deaver, Abdominal and Pelvic Surgery.

Episcopal Hospital.

H. C. Deaver. General Surgery.

SATURDAY.

Philadelphia Lying-In Charity.

G. M. Boyd, Lessons Learned in Twenty-Three Years of Practice.

Medico-Chirurgical College Hospital.

Ernest Laplace, Gallstone Diseases, Appendicitis, and Head Injuries.

TRANSPORTATION.

Now that there is so much latitude connected with the use of the regular mileage book (any number can travel on one book and no restriction is placed on the sale of remaining mileage), it is the best and often the cheapest method. Members are advised to look up the mileage from their home station to Philadelphia. The certificate plan is the only special one offered by the railroads, but its advantages are so few and its inconveniences so many that no request has been made for this plan by the officers of the society.

HOUSE OF DELEGATES.

The House of Delegates will meet at the Bellevue-Stratford, in the Junior Cotillion Room, Monday, September 22, 1913, at 8 P.M.

The President of the Society, Dr. Lewis H. Taylor, Wilkes-Barre, will call the House to order, and it is recommended that the following program subject to the approval of the House constitute the order of business.

Report of Committee on Credentials.
Roll Call
Announcement of Committees.
Reports of
  Secretary and Editor.
  Assistant Secretary.
  Treasurer.
  Board of Trustees and Council.
  Judicial Council.
  Individual Councilors.
  District Censors.
  Committee on Arrangements.
  Committee on Scientific Work.
  Committee on Public Policy and Legislation.
  Committee on Archives.
  Committee on Medical Advertising.
  Committee on Defense of Medical Research.
  Committee to Act with Pennsylvania Dairy Association.
  Committee on Lodge Practice.
  Committee for Promotion of Efficient Laws on Insanity.
  Committee on Library.
  Committee on Plan for Uniform Regulation of Membership.
  Committee on Medical Benevolence.
  Committee on Health and Public Instruction.
  Committee for Public Health Education among Women.
  Commission on Cancer.
  Commission on Venereal Diseases.
  Commission on Conservation of Vision.
  Member of National Legislative Council.
  Delegates to other societies .
Reading of correspondence.
Transaction of business.
Fixing time of next meeting.
Adjournment.

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